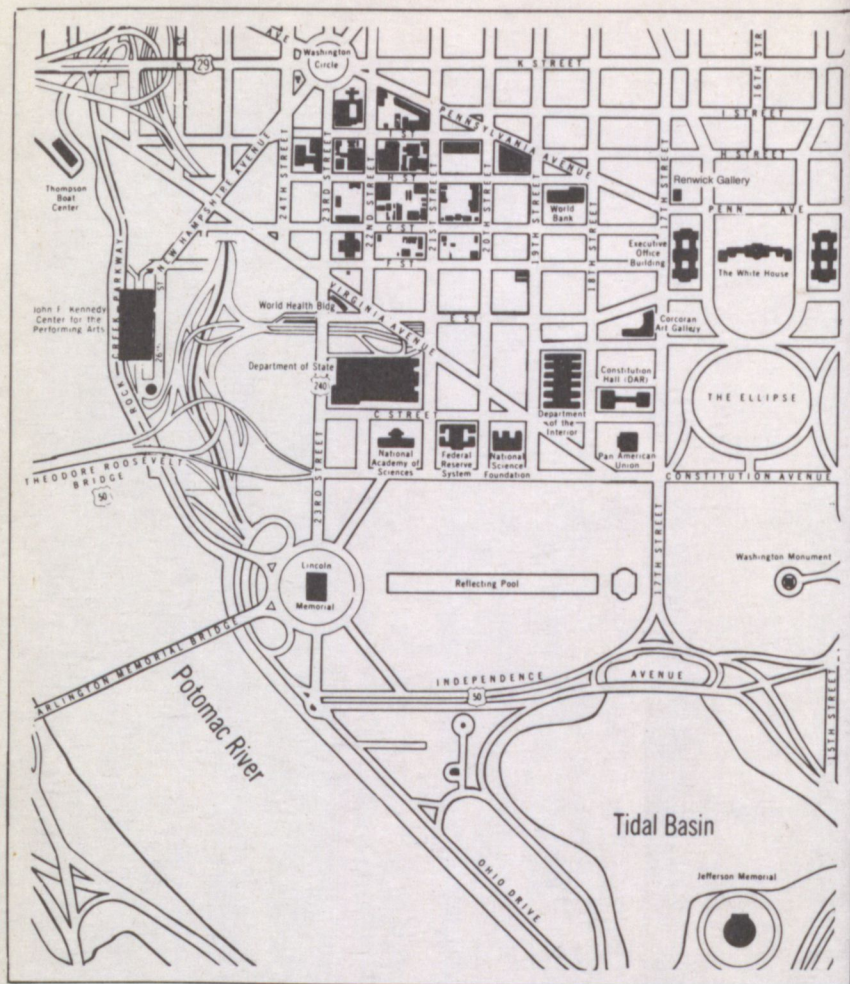


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The George Washington University Bulletin

Undergraduate
and Graduate
Programs
1990–1991



THE GEORGE WASHINGTON UNIVERSITY CAMPUS/WASHINGTON, D.C.

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THE GEORGE WASHINGTON UNIVERSITY BULLETIN

UNDERGRADUATE AND GRADUATE PROGRAMS 1990-1991

Columbian College of Arts and Sciences

Graduate School of Arts and Sciences

School of Education and Human Development

School of Government and Business Administration

Elliott School of International Affairs

Division of Continuing Education

For information concerning the School of Engineering and Applied Science, the National Law Center, or the School of Medicine and Health Sciences, please request the appropriate bulletin.

THE GEORGE WASHINGTON UNIVERSITY

UNDERGRADUATE AND GRADUATE PROGRAMS

1992-1993

College of Arts and Sciences

School of Arts and Sciences

School of Education and Human Development

School of Government and Business Administration

School of International Affairs

School of Continuing Education

Information concerning the School of Engineering and Applied Sciences, the Law Center, the School of Medicine and Health Sciences, and the School of Business Administration is available in the appropriate catalog.

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AUGUST 1990

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1990 FALL SEMESTER

- August 30 Advising and testing begin for entering students
- September 1 Welcoming activities begin
- September 3 Labor Day (holiday)
- September 4 Classes begin
- September 4-14 Late registration†
- September 5 University Faculty Assembly meeting
- September 7 Fall Convocation
- September 14 Faculty Senate meeting
- October 1 Applications due for February graduation
- Applications due for November Master's Comprehensive Examinations in the Elliott School of International Affairs and the School of Government and Business Administration
- October 11 Board of Trustees meeting
- October 12 Faculty Senate meeting
- November 1 Applications due for spring semester financial aid
- November 2 Applications due for Ed.D., Ed.S., and M.A. in Ed.&H.D. Comprehensive Examinations

*The Academic Calendar is subject to change.
†Registration is by telephone only; consult the *Schedule of Classes*.

November 2-3	Elliott School of International Affairs and School of Government and Business Administration Master's Comprehensive Examinations
November 5	Registration for spring semester classes begins*
November 9	Faculty Senate meeting
November 15	Doctoral dissertations due from February candidates in the School of Education and Human Development
November 22-23	Thanksgiving holiday
November 26	Doctoral dissertations due from February candidates in the Graduate School of Arts and Sciences and the School of Government and Business Administration
December 1	Ed.D., Ed.S., and M.A. in Ed.&H.D. Comprehensive Examinations
December 10	Last day of fall semester classes
December 11-12	Reading period
December 14	Faculty Senate meeting
December 13-21	Examination period

1991 SPRING SEMESTER

January 3	All degree requirements to be completed and reported to the Graduate School of Arts and Sciences for February graduation Master's theses due from February candidates
January 7	Advising and testing for international students
January 8	Advising and testing for freshmen
January 9	Classes begin
January 9-18	Late registration*
January 17	Board of Trustees meeting
January 18	Faculty Senate meeting
January 21	Martin Luther King Day (holiday)
January 22	University Faculty Assembly meeting
February 1	Applications due for May graduation Deadline for submission of 1991-92 undergraduate financial aid applications for entering students
February 8	Faculty Senate meeting
February 17	Winter Convocation
February 18	George Washington's birthday observed (holiday)
February 22	Doctoral dissertations due from May candidates in the School of Education and Human Development
February 27	Applications due for April Master's Comprehensive Examinations in the Elliott School of International Affairs and the School of Government and Business Administration
March 1	Deadline for submission of 1991-92 undergraduate financial aid applications for continuing students Doctoral dissertations due from May candidates in the Graduate School of Arts and Sciences
March 8	Faculty Senate meeting
March 11-15	Spring recess
March 15	Applications due for Ed.D., Ed.S., and M.A. in Ed.&H.D. Comprehensive Examinations

* Registration is by telephone only; consult the *Schedule of Classes*.

- March 18 Doctoral dissertations due from May candidates in the School of Government and Business Administration
- March 21 Board of Trustees meeting
- March 29 Honors Convocation
- April 1 Deadline for submission of summer sessions and 1991-92 graduate financial aid applications
- April 8 Registration for fall semester classes begins*
- April 12 Faculty Senate meeting
- April 12-13 School of Government and Business Administration and Elliott School of International Affairs Master's Comprehensive Examinations
- April 13 Ed.D., Ed.S., and M.A. in Ed.&H.D. Comprehensive Examinations
- April 15 Master's theses due from all May candidates except those in the Elliott School of International Affairs
- April 18 All degree requirements to be completed and reported to the Graduate School of Arts and Sciences for May graduation
- April 23 Last day of spring semester classes
- Master's theses due from May candidates in the Elliott School of International Affairs
- April 24-26 Reading period
- April 29-May 7 Examination period
- May 3 Faculty Senate meeting
- May 12 Commencement
- May 16 Board of Trustees meeting

Registration is by telephone only; consult the *Schedule of Classes*.

FACTS ABOUT GEORGE WASHINGTON UNIVERSITY

General Information	Private, nonsectarian, coeducation founded 1821
Location	Washington, D.C., bounded by Pennsylvania Avenue and 19th, F, and 24th Streets, N.W.
Number of On-Campus Students	10,234 full-time; 6,713 part-time
Geographical Origin of Students	50 states, the District of Columbia and more than 100 countries
Number of Full-time Faculty	1,272 (91% with doctoral degrees)
Number of Part-time Faculty	585 (includes some of the most distinguished men and women in Washington)

Undergraduate majors: Accountancy, American Civilization, Anthropology, Applied Mathematics, Art History, Biology, Botany, Business Administration, Chemistry, Chinese Language and Literature, Civil Engineering, Classical Archaeology and Anthropology, Classical Archaeology and Classics, Classical Humanities, Computer and Information Systems, Computer Engineering, Computer Science, Criminal Justice, Dance, Early Modern European Studies, East Asian Studies (China or Japan), Economics, Electrical Engineering, Elementary Education, Emergency Medical Services, English, Environmental Studies, Exercise and Sport Science, Fine Arts, French Language and Literature, Geography, Geology, Germanic Languages and Literatures, History, Human Services, International Affairs, Journalism, Judaic Studies, Latin American Studies, Liberal Arts, Mathematics, Mechanical Engineering, Medical Record Administration, Medical Technology, Middle Eastern Studies, Music, Nursing Anesthesia, Philosophy, Physician Assistant, Physics, Political Communication, Political Science, Psychology, Radio-Television, Radiologic Sciences and Administration, Religion, Russian Language and Literature, Sociology, Spanish-American Literature, Spanish Language and Literature, Special Education, Speech Communication, Speech and Hearing Science, Statistics, Systems Analysis and Engineering, Theatre, Zoology.

Study leading to graduate or professional degrees is offered in the Graduate School of Arts and Sciences, the National Law Center, the School of Medicine and Health Sciences, the School of Engineering and Applied Science, the School of Education and Human Development, the School of Government and Business Administration, and the Elliott School of International Affairs.

THE UNIVERSITY

HISTORY

The George Washington University had its beginning in 1821 as The Columbian College in the District of Columbia. The name of the institution was changed in 1873 to Columbian University and in 1904 to The George Washington University. The debt of the University to George Washington, whose name it bears, is an intangible one.

George Washington, as President and as private citizen, had urgently insisted upon the establishment of a national university in the federal city. There he hoped that, while being instructed in the arts and sciences, students from all parts of the country would acquire the habits of good citizenship, throwing off local prejudices and gaining at first hand a knowledge of the practice, as well as the theory, of republican government. To further the materialization of his hopes, Washington left a bequest of fifty shares of The Potomac Company "towards the endowment of a University to be established within the limits of the District of Columbia, under the auspices of the General Government, if that government should incline to extend a fostering hand towards it." The Congress never extended a "fostering hand." The Potomac Company passed out of existence, and Washington's bequest became worthless.

Fully conscious of Washington's hopes, but motivated primarily by a great missionary urge and the need for a learned clergy, a group of dedicated ministers and laymen sponsored a movement for the establishment of a college in the District of Columbia. Inspired largely by the zeal and energy of the Reverend Luther Rice, they raised funds for the purchase of a site and petitioned Congress for a charter. After much delay and amendment, Congress granted a charter, which was approved by President Monroe on February 9, 1821. To safeguard the College's nonsectarian character it provided "That persons of every religious denomination shall be capable of being elected Trustees; nor shall any person, either as President, Professor, Tutor or pupil, be refused admittance into said College, or denied any of the privileges, immunities, or advantages thereof, for or on account of his sentiments in matters of religion."

During the entire time when the institution was known as Columbian College, its activities were centered on College Hill, a tract of forty-six and a half acres between the present Fourteenth and Fifteenth Streets extending north from Florida Avenue to somewhat beyond Columbia Road. The Medical School was located downtown. For the better part of the Columbian University period, the buildings of the University were situated along H Street between Thirteenth and Fifteenth Streets.

During the last half-century, the University's present plant has been developed in that section of the old First Ward familiarly known as "Foggy Bottom," between Nineteenth and Twenty-fourth Streets, south of Pennsylvania Avenue. The area has many reminders of historic interest to the University. President Monroe, who signed the Charter, lived at 2017 Eye Street. The first President of the Board of Trustees, the Reverend Obadiah B. Brown, was for fifty years the pastor of a church at Nineteenth and Eye Streets, and Washington selected twenty-third and E Streets as the site of the National University he hoped to see established.

PURPOSE AND OBJECTIVES

The purpose of The George Washington University was to realize "the aspirations of Washington, Jefferson and Madison, for the erection of a university at seat of the Federal Government." Over the years it has been the aim to develop the University ideal in the nation's capital with a view toward meeting the changing needs of society while continuing to pursue the traditional principles of learning and research.

The George Washington University is dedicated as an institution of high learning to promote the general advancement of human knowledge and understanding and the development of every student to his or her highest potential that each may make the maximum contribution to the improvement of standards, mores, and scientific and cultural climate of all peoples.

In pursuit of excellence in education, the University dedicates itself to freedom of inquiry, respect for truth, and support for research. The University is committed to preserving a curriculum that embodies the content and spirit of liberal arts and promotes academic specialization and professional education, fostering respect and communication among different cultures; and maintaining a continuing process of institutional self-assessment and adaptation to meet rapidly changing needs of society.

The University recognizes its special opportunities in and obligations to one of the principal capitals of the world. It is a primary objective of the University to utilize its location in the nation's capital in continuing the development of a globally and internationally oriented university.

THE COLLEGE, SCHOOLS, AND DIVISION

George Washington University includes nine academic units, as follows:

*Columbian College of Arts and Sciences** offers four-year programs in the liberal arts and sciences leading to the degrees of Bachelor of Arts, Bachelor of Science, and Bachelor of Music. The College also provides prelegal and premedical programs.

The Graduate School of Arts and Sciences† offers advanced study and research leading to the degrees of Master of Arts, Master of Fine Arts, Master of Forensic Sciences, Master of Music, Master of Science, Master of Science in Forensic Science, and Doctor of Philosophy. Some degree programs are available off campus and administered by the Division of Continuing Education.

The School of Medicine and Health Sciences offers work leading to the degrees of Associate in Science, Bachelor of Science, Bachelor of Science in Health Science, Master of Public Health, and Doctor of Medicine.

The National Law Center‡ offers courses leading to the degrees of Juris Doctor, Master of Laws, and Doctor of Juridical Science and special programs in continuing legal education.

* *Columbian College of Arts and Sciences* cooperates with the School of Medicine and Health Sciences in offering a program leading to the combined degrees of Bachelor of Arts and Doctor of Medicine.

† *The Graduate School of Arts and Sciences* cooperates with the School of Medicine and Health Sciences in offering programs leading to the joint degrees of Master of Science–Doctor of Medicine and Doctor of Medicine–Doctor of Philosophy.

‡ *The National Law Center* cooperates with the Elliott School of International Affairs, Graduate School of Arts and Sciences, and the School of Government and Business Administration in offering programs leading to joint Juris Doctor and master's degrees.

The School of Engineering and Applied Science offers courses leading to the degree of Bachelor of Science in the following areas: civil engineering, computer engineering, computer science, electrical engineering, mechanical engineering, and systems analysis and engineering. Graduate programs lead to the degrees of Master of Science, Master of Engineering Administration, Engineer, Applied Scientist, and Doctor of Science. The School has academic jurisdiction over the off-campus programs leading to the degrees of Master of Science, Master of Engineering Administration, and Doctor of Science. These off-campus programs are administered by the Division of Continuing Education.

The School of Education and Human Development offers undergraduate programs leading to the degrees of Bachelor of Arts in Education and Human Development and Bachelor of Science in Human Kinetics and Leisure Studies and graduate studies leading to the degrees of Master of Arts in Education and Human Development, Master of Arts in Teaching, Master of Education, Education Specialist, and Doctor of Education. The degree of Master of Arts in Education and Human Development is also available through off-campus programs administered by the Division of Continuing Education.

The School of Government and Business Administration offers undergraduate programs leading to the degrees of Bachelor of Accountancy and Bachelor of Business Administration and graduate programs leading to the degrees of Master of Accountancy, Master of Association Management, Master of Business Administration, Master of Health Services Administration, Master of Public Administration, Master of Science in Information Systems Technology, Master of Taxation, Master of Urban and Regional Planning, Specialist in Health Services Administration, and Doctor of Philosophy.

The Elliott School of International Affairs offers undergraduate programs leading to the degree of Bachelor of Arts and graduate programs leading to the degree of Master of Arts.

The Division of Continuing Education assists in providing continuing education programs for adult students by administering or coordinating the off-campus credit offerings of the colleges and schools of the University, at both the undergraduate and graduate levels. Noncredit courses are also offered through the Division.

ACADEMIC STATUS

George Washington University is accredited by its regional accrediting agency, the Middle States Association of Colleges and Schools.

The University is on the approved list of the American Association of University Women and is a member of the College Board.

The National Law Center is a charter member of the Association of American Law Schools and is approved by the Section of Legal Education and Admissions to the Bar of the American Bar Association. The School of Medicine and Health Sciences has had continuous approval by its accrediting body, which is currently the Liaison Committee on Medical Education, sponsored jointly by the American Medical Association and the Association of American Medical Colleges. All undergraduate engineering curricula, including the computer engineering option, of the School of Engineering and Applied Science are accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology. The computer science curriculum is accredited by the Computer Science Accreditation Commission of the Computing Sciences Accreditation Board. The School of Education and Human Development is a charter

member of the American Association of Colleges for Teacher Education and accredited by the National Council for Accreditation of Teacher Education for eligible bachelor's, master's, and doctoral degree programs; the School's counseling programs are accredited by the Council for the Accreditation of Counseling and Related Educational Programs and the Council on Rehabilitation Education. The School of Government and Business Administration has maintained full membership in the Middle Atlantic Association of Colleges of Business Administration since 1961. It joined the Council on Graduate Education for Public Administration in 1966. In 1968, the School became a member of the American Assembly of Collegiate Schools of Business; the Assembly accredited its undergraduate program in 1977 and its master's program in 1982. The programs in accountancy satisfy the educational requirements for the Certified Public Accountant and the Certified Management Accountant professional examinations. The program in health services administration is accredited by the Accreditation Commission on Education for Health Services Administration. The Master of Public Administration program is on the approved list of the National Association of Schools of Public Affairs and Administration. The Master of Urban and Regional Planning degree program is recognized by the American Planning Association. The Master of Association Management degree program is recognized by the American Society of Association Executives. The Department of Chemistry is on the approved list of the American Chemical Society. The Department of Music is an accredited member of the National Association of Schools of Music. The graduate program in clinical psychology in the Department of Psychology is on the approved list of the American Psychological Association. The graduate program in speech-language pathology and audiology is accredited by the Education and Training Board of the Boards of Examiners in Speech-Language Pathology and Audiology.

UNIVERSITY POLICY ON EQUAL OPPORTUNITY

George Washington University does not discriminate against any person on the basis of race, color, religion, sex, national origin, age, handicap, or veteran status. This policy covers all programs, services, policies, and procedures of the University, including admission to education programs and employment. The University is subject to the District of Columbia Human Rights Law.

Inquiries concerning the application of this policy and federal laws and regulations regarding discrimination in education or employment programs and activities may be addressed to Susan B. Kaplan, Special Assistant to the President, George Washington University, Washington, D.C. 20052, (202)994-6500, or to the Assistant Secretary for Civil Rights of the U.S. Department of Education.

LOCATION

The University is in downtown Washington, between Pennsylvania Avenue and 19th, F, and 24th Streets, N.W. In immediately adjacent areas are the White House, the World Bank, the Corcoran Gallery of Art, the Department of State, the National Academy of Sciences, the John F. Kennedy Center for the Performing Arts, and many other governmental and cultural institutions.

THE UNIVERSITY LIBRARIES

The library collections of the University are housed in the Melvin Gelman Library (the general library of the University) and in the libraries of the National Law Center and the School of Medicine and Health Sciences.

These collections contain more than 1,500,000 volumes. Endowments supplementing the University appropriation provide research materials in the fields of American civilization, American literature, art history, history, labor relations, public finance, the social sciences, and transportation. Gifts from many sources have enriched the collections, including a large National Endowment for the Humanities grant to strengthen the University's humanities holdings. The libraries hold over 18,000 serials.

Information concerning the use of the libraries may be obtained at library service desks. Individual and class instruction in the use of the library and orientation to library facilities are given by librarians upon request.

The library strives to fulfill the curricular and research needs and interests of the students. Through computerized searches of bibliographic databases, the reference staff identifies and locates desired research materials not easily found through more traditional methods. The staff assists all members of the University in using the rich resources of the Washington area and the unusual opportunities they offer for extensive research.

Graduate degree candidates at George Washington University may, upon application, be issued a Consortium library card that permits direct borrowing from the main campus libraries of most other academic institutions in the Washington area. Graduate students may also obtain books and journal articles on inter-library loan from other libraries in the city, throughout the United States, and in various other countries.

THE BOARD OF TRUSTEES OF THE UNIVERSITY

The University is privately endowed and is governed by a Board of Trustees of which the President of the University is an *ex officio* member.

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- John B. Duncan, Former Commissioner of the District of Columbia, Washington, D.C.
- Katharine Graham, Chairman of the Board, The Washington Post Company, Washington, D.C.
- Joseph D. Hughes, Retired Vice President and Governor, T. Mellon and Sons, Pittsburgh, Pa.

* Alumni trustee.

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- James M. Mitchell, Management Consultant, Alexandria, Va.
- Godfrey L. Munter, Attorney, Washington, D.C.
- Orville F. Rush, Retired Corporate Executive, Washington, D.C.
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- Charles E. Smith, Chairman of the Board, Charles E. Smith Companies, Arlington, Va.
- James O. Wright, Retired Corporate Executive, Sea Island, Ga.
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Science

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Development

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Administration

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- Henry Nau, Ph.D., Associate Dean of the Elliott School of International Affairs
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- Charles Edward Rice, Ph.D., Assistant Dean of the Graduate School of Arts and Sciences
- David Alton Rowley, Ph.D., Assistant Dean of the Graduate School of Arts and Sciences
- Benjamin Cael Blatt, M.A., M.D., Assistant Dean of the Medical Center, for Student Affairs
- John Franklin Williams, Jr., M.S., M.P.H., M.D., Assistant Dean of the Medical Center, for Admissions
- Barrett Michael Wise, B.S., Assistant Dean in the School of Medicine and Health Sciences
- Susan D. Medalie, M.A., J.D., Assistant Dean of the National Law Center, for External Affairs
- Alfreda Robinson, J.D., Assistant Dean of the National Law Center, for Student Affairs
- Nancy L. Schultz, J.D., Assistant Dean of the National Law Center; Director of Legal Research and Writing
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- Marlana R. Valdez, Assistant Dean of the National Law Center, for Graduate Programs
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- Marvin Stewart Katzman, D.B.A., Assistant Dean of the School of Government and Business Administration, for Undergraduate Programs
- Willie Jo Moreland, Ed.D., Assistant Dean of the Division of Continuing Education
- Wayle E. Schou, Ed.D., Assistant Dean of the Division of Continuing Education

THE FACULTY SENATE 1989-90

- | | |
|---------------------------|-----------------------------|
| Simon Ya Berkovich | *Harold Liebowitz |
| *Ben Burdetsky | Dorothy Adele Moore |
| James Franklin Burks | William H. Painter |
| Christopher James Deering | Robert Eugene Park |
| Salvatore Frank Divita | Alvin Edward Parrish |
| *Maurice Alden East | Francisco Prats |
| Mervyn L. Elgart | Philip Robbins |
| Raymond Richard Fox | Lilien Filipovitch Robinson |
| *Roderick Stuart French | Robert Warren Rycroft |
| *Jack Harlan Friedenthal | Stefan Otto Schiff |
| *John Matthew Gaglione | Ormond Albert Seavey |
| Charles Alexander Garris | *Henry Solomon |
| Lois E. Graff | Susan J. Tolchin |
| *William Byron Griffith | *Stephen Joel Trachtenberg |
| Robert I. Keimowitz | Roger Hans Trangsrud |
| Dennis Howard Holmes | Clemmont Eyvind Vontress |
| *Robert Wayne Kenny | Glenn Anthony Walker |
| Arthur David Kirsch | Anthony Marvin Yezer |
| *Leo D. Leonard | |

Roger E. Schechter, *Parliamentarian*



* Ex officio member

† Chairman of the Executive Committee

ADMISSIONS

The University is coeducational and accepts applications for admission at the beginning of each semester and summer session.

An application for admission to degree candidacy should be accompanied by a \$45 application fee. The fee must be paid by check or postal money order, payable to The George Washington University. The application fee is waived for graduates of this University applying to the Graduate School of Arts and Sciences and for students applying for readmission who were registered as degree candidates at the time of their last registration at this University and who have not since registered at another institution.

Applicants are urged to submit the application form and complete credentials well in advance of the semester or summer session for which they seek admission. Specific dates are given in each section below.

Acceptance is based on available space and evidence of potential for successful study. The following criteria are considered: degree or major objective related to rigor of program and grades achieved in secondary school or previous college, standardized test scores, relationship between grades and test scores, and recommendations.

The University reserves the right to refuse admission to any student with an academic record that indicates doubtful ability to succeed in college. In the evaluation process, there is no discrimination on the basis of race, color, religion, sex, national origin, age, handicap, or veteran status.

UNDERGRADUATE ADMISSION

Application forms for admission or readmission to undergraduate or nondegree status are available from and should be returned to the Office of Admissions, George Washington University, Washington, D.C. 20052. For detailed admission requirements, see the appropriate college or school in this *Bulletin*.

Secondary School Students

FRESHMEN—REGULAR DECISION

Applicants who wish to begin college in a summer session or in the fall semester should apply during the fall term of the senior year in high school. Preference for places in the entering class will be given to students who submit applications and required credentials prior to February 1. Students graduating at mid-year who wish to begin college in the spring semester should apply no later than November 1.

Applicants from secondary schools must arrange to have sent directly from their schools to the Office of Admissions a complete academic record together with a teacher and a counselor recommendation. This information should be supplied on the appropriate forms in the application packet.

Entrance Examinations—Applicants from secondary schools must submit scores on the College Board Scholastic Aptitude Test (SAT) or on the American College Testing (ACT) battery. Submission of scores on College Board Achievement Tests in English composition and mathematics is recommended. Score reports must be sent directly to the Office of Admissions from the testing agency.

FRESHMEN—EARLY DECISION

High school seniors applying for fall admission as full-time freshmen to George Washington University as their first choice may wish to take advantage of the Early Decision Program. The three-year secondary school record must be of high quality. To apply for Early Decision, submit the application for admission and supporting credentials by November 15; you will receive notification of decision by December 15. If accepted, you are required to send in your declaration of intent to attend GW, together with appropriate deposits, no later than January 15 and to withdraw all applications for admission to other colleges and universities. Applicants not accepted for Early Decision will receive full consideration for regular fall admission after review of seventh-term grades.

FRESHMEN—EARLY ADMISSION PLAN

Exceptionally well-prepared students who have completed the junior year of high school may apply for early admission. This plan is designed for students with the emotional maturity, as well as the academic ability and background necessary for college entrance. In most cases, applicants accepted for early admission have exhausted academic offerings in secondary school to the extent that remaining for the senior year is not in the best interests of the students or their schools.

To be considered for early admission, students must

1. demonstrate superior academic performance through the junior year of high school;
2. meet the entrance requirements of the college or division applied to, completing all required entrance units with the possible exception of the fourth year of English;
3. have the unqualified recommendation of the secondary school principal or counselor;
4. submit two letters of recommendation (in addition to the counselor's) from teachers who can testify to the student's maturity and general readiness to enter college;
5. submit a letter from a parent or guardian supporting early college entrance;
6. arrange to have SAT or ACT scores sent directly to the Office of Admissions by the testing agency;
7. take the College Board Achievement Tests in English composition, mathematics and one other Achievement Test (of the student's choice) and arrange to have the scores sent directly to the Office of Admissions by the testing agency.

Transfer Students

Undergraduate students from other institutions should submit applications and required credentials prior to June 1 for the fall semester, November 1 for the spring semester, and April 1 for the summer sessions.

To be accepted for transfer, a student must be in good standing as to scholarship and conduct at all postsecondary institutions previously attended. A student who has been academically dismissed will not normally be considered for admission.

An applicant who has attended one or more institutions of higher education must request each registrar to mail directly to the Office of Admissions a transcript of his or her record, even if credits were not earned.

In addition, an applicant must have his or her high school record and College Board or ACT test scores sent to the Office of Admissions directly from the high school and testing agency.

Advance Tuition Deposit

After notification of acceptance, a \$200 advance tuition deposit will be required of all full-time undergraduate students, including those readmitted. This deposit is due May 1 for students entering in the fall semester and December 15 for students entering in the spring semester. The deposit is credited toward tuition and is not refundable.

Advanced Standing and Advanced Placement

CREDIT FROM OTHER INSTITUTIONS OF HIGHER LEARNING

Where there is no duplication involved, either through course work or examination, credit may be granted for work successfully completed at other institutions of higher learning. Assignment of transfer credit will depend on the appropriateness of the courses completed elsewhere, the standing of the institution at which the previous work was completed, and the regulations of the division of this University in which the credit is to be applied toward a degree. Transfer credit must satisfy the requirements for the degree sought as stated in this *Bulletin*. Credit may be accepted provisionally or may require validation by examination or completion of higher-level courses in the same sequence. Transfer credit will not be assigned for courses completed with a low-pass grade (*D* or the equivalent); course work completed in vocational/technical programs (e.g., secretarial studies); sub-freshman-level remedial work.

In Columbian College, credit assigned for professional courses (those in engineering, education, or business) is limited to 9 semester hours. In the School of Government and Business Administration, there is a limitation of three semester hours per course to be assigned for work completed at another institution; students transferring to that school from two-year colleges will receive no more than 60 semester hours of credit to be applied to degree programs at this University. Columbian College of Arts and Sciences and the Elliott School of International Affairs accept a maximum of 66 semester hours of credit from two-year colleges. The School of Education and Human Development will accept no more than 63 semester hours of such credit. All transfer students must satisfy the residence and course requirements for degrees sought at this University.

CREDIT BY EXAMINATION, FROM SERVICE SCHOOLS, FROM NONCOLLEGIATE ORGANIZATIONS, AND BY NONTRADITIONAL METHODS

Assuming there is no duplication of course work, a maximum of 30 semester hours of credit may be assigned upon admission to the University for any combination of the following except as noted below.

College Board Advanced Placement (AP) Tests—On the basis of a score report sent to the Office of Admissions from the Educational Testing Service at the student's request, undergraduate credit is assigned for scores of four or five on all Advanced Placement Tests except the test in Studio Art, for which no credit is awarded. Test scores below four are not accepted for assignment of academic credit. The Advanced Placement Tests are administered in the secondary schools in May of each year. Normally only students who complete a course designated as Advanced Placement are prepared for the examination. Arrange-

ments for the examination are the responsibility of the applicant and should be made through the secondary school attended or with the Program Director, College Board, Advanced Placement Tests, CN 6671, Princeton, N.J. 08541-6671.

College Board College-Level Examination Program (CLEP)—CLEP offers two types of examinations: General and Subject Examinations. CLEP General Examinations are offered in five areas: English composition, humanities, mathematics, natural sciences, and social sciences and history. CLEP Subject Examinations measure achievement in specific college-level courses and are offered in various subjects.

Credit is assigned for the General Examinations, with the exception of the English composition examination, passed at approximately the 50th percentile or above.

Credit is assigned, with some exceptions, for the Subject Examinations passed at the level recommended in the College Board model policy. A student registered in a degree program at this University must seek departmental and dean approval prior to taking a CLEP Subject Examination for credit to be applied toward the degree. Credit may not be earned by passing the examination after having taken an equivalent course. Arrangements for the examinations are the responsibility of the student and should be made with the College Board College-Level Examination Program, CN 6601, Princeton, N.J. 08541-6601. See the School of Government and Business Administration for specific restrictions on CLEP credit for applicants to that school.

Special Departmental Examinations for Undergraduates—Credit may be assigned for Special Departmental Examinations administered by Columbian College departments to students enrolled in all undergraduate divisions of the University; see page 73.

Credit Earned Through USAFI and DANTES—Except for students enrolled in the School of Government and Business Administration, credit is assigned for approved United States Armed Forces Institute (USAFI) and Defense Activity Nontraditional Education Support (DANTES) courses.

Credit from Service Schools—Except for undergraduates admitted to the School of Government and Business Administration, a limited amount of credit may be assigned for selected service school courses. Students seeking such credit should consult the Office of Admissions.

Credit for Courses Offered Through Correspondence and Television—Except for undergraduates admitted to the School of Government and Business Administration, a limited amount of credit may be assigned for selected courses taught by nontraditional methods, provided that such courses require the student's physical presence during a monitored final examination. Assignment of such credit will require a statement from the sponsoring agency that such an examination was a required part of the course.

ADVANCED PLACEMENT OR WAIVER BY EXAMINATION

Advanced placement or waiver of a requirement will be granted on the basis of scores on Achievement Tests of the College Board as follows:

Achievement Test	Minimum Score	Exemption
English Composition	650	Waives Engl 10
European and/or American History	600	Waives Hist 39-40 and/or 71-72

French	650	} Waives a two-year language requirement
German	600	
Hebrew	600	
Latin	600	
Russian	700	
Spanish	650	

A score of 58 or above on the SAT Test of Standard Written English, or a score of 28 or above on the ACT English Usage Test, will waive English 10.

Advanced standing (academic credit) is not assigned on the basis of SAT, ACT, or Achievement Test results.

GRADUATE ADMISSION

For detailed admission requirements, see the appropriate school in this *Bulletin*.

Graduate School of Arts and Sciences—Application forms for admission or readmission are available at the Office of the Dean of the Graduate School of Arts and Sciences, George Washington University, Washington, D.C. 20052. Completed applications and requests for fellowship support must be submitted by the dates indicated on the Graduate School's application information. Applications for graduate study without fellowship support must be received by July 1 for the fall semester, by November 1 for the spring semester, and by April 15 for the summer session, unless otherwise noted on the Graduate School's application information.

School of Education and Human Development—Application forms for admission or readmission are available at the Office of the Dean of the School of Education and Human Development, George Washington University, Washington, D.C. 20052. Completed application forms should be submitted to that office no later than June 1 for the fall semester, November 1 for the spring semester, and April 1 for the summer sessions, unless an extension is granted by the office of the dean.

School of Government and Business Administration—Application forms for admission or readmission are available at the Office of Enrollment Development and Admissions, School of Government and Business Administration, George Washington University, Washington, D.C. 20052. The Application for Graduate Degree Candidacy shows the deadlines for applications to the graduate programs offered by this school.

Elliott School of International Affairs—Application forms for admission or readmission are available at the Graduate Admissions Office, Elliott School of International Affairs, George Washington University, Washington, D.C. 20052. Completed application forms should be submitted to that office no later than February 1 (January 15 for foreign applicants and applicants for graduate fellowship or assistantships). Admission is for the fall semester only. All credentials, including transcripts from all institutions attended, Graduate Record Examination scores, and letters of reference, must be received before the deadline date.

DIVISION OF CONTINUING EDUCATION

The Office of University Students in the Division of Continuing Education makes on-campus credit courses available to *nondegree students*. Application forms for admission to nondegree status in this Division are available from and should be returned to the Office of Admissions, George Washington University, Washington, D.C. 20052. There is no fee for applying to this Division. For detailed entrance requirements, see page 168.

Students in this Division may not take graduate courses in accounting, business administration, or management science; registration in other courses may be denied students in nondegree status when space is needed for degree students.

A maximum of 45 semester hours earned in the Division of Continuing Education may be applied toward a bachelor's degree in the undergraduate degree-granting schools of the University.

READMISSION

Previously registered students who wish to resume studies on campus after discontinuing enrollment for one or more semesters (summer sessions excluded) must apply for readmission. Deadlines for readmission applications from students in good academic standing are the same as those for new applications (see pages 19–20 and 23). Students who discontinued enrollment while on academic probation or under suspension should allow at least one month for appropriate processing of readmission credentials. Students seeking readmission after having attended other institutions of higher education in the interim must have complete official transcripts sent to the appropriate office at this University from all other institutions attended. Students seeking readmission as degree candidates after previous enrollment in nondegree status must submit a standard undergraduate degree application and fee, together with all entrance credentials not previously received or required.

Applicants for readmission are subject to the University regulations in effect at the time of readmission.

The application fee is waived for students applying for readmission after previous enrollment as degree candidates at this University if they have not since registered as degree candidates at another institution.

STUDENTS FROM FOREIGN INSTITUTIONS

Applications, required records, and scores on the Test of English as a Foreign Language (see below) should be received from international students no later than February 1 for the fall semester and October 1 for the spring semester. For detailed admission requirements, see the appropriate college or school in the Bulletin.

Required Records

At the time the application is sent, students must have the educational institutions previously attended send directly to the appropriate admissions office (Undergraduate Admission, pages 19–20, or Graduate Admission, page 23) copies of official certificates and records listing subjects studied, grades received, examinations taken, and degrees received. Certified copies of diplomas and certificates from all secondary schools, colleges, and universities attended are required. Records of state examinations and certificates are also required. These records become the property of the University and cannot be returned.

These documents should be in the language in which the institution keeps its official records. If they are in a language other than English, the copies sent should be accompanied by a certified English translation.

Language Tests

All applicants whose native language is not English are required to take the Test of English as a Foreign Language (TOEFL), and the University looks for a minimum

num score of 550 in considering candidates for admission. Applicants are responsible for making arrangements to take the test by addressing inquiries to TOEFL, CN 6151, Princeton, N.J. 08541-6151. The completed registration form must be returned well in advance of the semester for which admission is sought. On the application for the TOEFL, students should specify that the scores are to be sent to the appropriate admissions office at this University. Registration for the TOEFL does not constitute application for admission to George Washington University.

Admitted students whose native language is not English are also required to take an English as a Foreign Language placement test prior to registering at the University; the placement test is waived for students with a TOEFL score of at least 600 and a Test of Written English score of at least 5. Depending on the results of this test, the student's academic program may be restricted in number and type of courses that can be taken. (See page 125 for policy governing international students newly admitted to the School of Government and Business Administration.) College credit is not granted for English study below the level of standard freshman English courses.

Financial Certificate

A Financial Certificate must be completed and submitted with the application for admission of all international students planning to study at the University under the authorization of either a student (F) or exchange visitor (J) visa. Satisfactory completion and submission of the Financial Certificate is required for the issuance of a Form I-20 or IAP-66.

TRANSFER WITHIN THE UNIVERSITY

For information concerning transfer from one college, school, or division to another within the University, see page 48.

REGISTRATION

Information on registration procedures is stated in the *Schedule of Classes* which is available in advance of each semester.

Registration in on-campus courses is open only to those persons formally admitted to the University by the appropriate admitting office, as well as to students in good standing who are continuing in an approved program of study.

No registration is accepted for less than a semester or one summer session.

Students may not register concurrently in this University and another institution without the prior permission of the dean of the college, school, or division in which registered in this University. Registration in more than one college, school, or division of the University requires the written permission of the dean concerned, prior to registration. Registration is not complete until all financial obligations have been met.

Eligibility for Registration

Registration for the following categories of campus students is held on the day of registration stated in the University Calendar and published in the *Schedule of Classes*. A student who is suspended or whose record is not clear for any reason is not eligible to register. Registration in a given course may be denied to students in the Division of Continuing Education when space is needed for degree candidates.

New Student—Upon receipt of a letter of admission, the new student is eligible for registration on the stated days of registration.

Readmitted Student—A student previously registered in the University who was not registered on campus during the preceding semester must apply for and be granted readmission by the appropriate admitting office before he or she is eligible for registration.

Continuing Student—A student registered on campus in the immediate preceding semester or the summer session preceding the fall semester is eligible to register assuming good standing and enrollment in a continuing program.

Completion of Registration

Registration is not complete until financial obligations have been fulfilled. Attendance in class is not permitted until registration has been completed.

Program Adjustment (Add/Drop)

The program adjustment period begins the first day of classes. Program adjustment requires the approval of the advisor, department, and dean concerned.

Registration for Consortium Courses

Degree students interested in taking courses at any of the other institutions in the Consortium of Universities of the Washington Metropolitan Area, Inc., should consult the program announcements of the other institutions. Consortium registration forms and instructions may be picked up in the Office of the Registrar. In order to participate in the Consortium program, students must obtain the approval of an advisor and should ascertain from the department of the institution where the course is taught whether they are eligible for the course and whether there is space in the class. Specific inquiries should be addressed to the Registrar.

FEES AND FINANCIAL REGULATIONS

Fees paid by students cover only a portion of the cost of the operation of the University. Income from endowment funds, grants, and gifts from alumni and friends of the institution makes up the difference.

The following fees and financial regulations were adopted for the 1990 summer sessions and the academic year 1990-91.

Tuition Fees

For undergraduate and graduate study in Columbian College of Arts and Sciences, the Graduate School of Arts and Sciences, the School of Education and Human Development, the School of Government and Business Administration, the Elliott School of International Affairs, and the Division of Continuing Education:

ON-CAMPUS PROGRAMS

Full-time undergraduate program (12-17 credit hours)*	
Students entering a degree program in academic year 1990-91 . . .	\$13,560
Students who entered a degree program in academic year 1989-90 . . .	12,560
Students who entered a degree program before summer 1989	11,560
Part-time undergraduate program (fewer than 12 credit hours)	
All students, per credit hour	445
Graduate program, all students, per credit hour	445
All nondegree students, per credit hour	445
Summer sessions, all students, per credit hour	403

OFF-CAMPUS PROGRAMS

All programs (except Crystal City Education Center), per credit hour	295
Crystal City (except Public Administration), per credit hour	340
Public Administration courses at Crystal City, per credit hour	445

Registration Fee (nonrefundable; charged all students per semester and summer registered)—\$25

Marvin Center Fee (charged all students registered on campus)—\$12 per credit hour, to a maximum of \$120 per semester

Additional Course Fees—In certain courses additional fees, such as laboratory and material fees, are charged by semester as indicated in the course descriptions. If breakage of apparatus is in excess of the normal amount provided for in the laboratory fee, the student will be required to pay such additional charges as determined by the department concerned.

Computer Usage Fees (charged for courses that use the computer facilities of the University)—Applicable fees are listed in the *Schedule of Classes* for each semester. The maximum computer usage fee is \$100 for any semester.

Residence Hall and Food Service Fees (see page 57)

Undergraduates taking more than 17 credit hours per semester will be charged at the rate of \$445 per credit hour for each credit exceeding that limit. For purposes of financial classification, students who enter a degree program in the summer preceding an academic year are considered to have entered that academic year. (For example, a student who begins course work toward a degree in summer 1990 is an entering student in academic year 1990-91.)

Special Fees and Deposits

Application fee (all degree candidates), nonrefundable	
Advance tuition deposit, nonrefundable, charged each entering or re-admitted full-time undergraduate student	
Housing deposit, nonrefundable, charged each applicant for residence hall space	
Orientation fee	
Graduation fee (charged all students applying for graduation)	
Late-registration fee, for failure to register within the designated period:	
During first week of classes	
After first week of classes	
Late-payment fee (see Payment of Fees, below)	
Financial reinstatement fee, for reinstatement after financial encumbrance for nonpayment of fees (see Payment of Fees, below) ..	
Returned check fee, charged a student whose check is improperly drafted, incomplete, or returned by the bank for any reason	
Binding master's thesis	
Microfilm service and printing announcement of final examination (doctoral candidates)	
Special Columbian College of Arts and Sciences departmental examination to qualify for receiving credit (advanced standing), waiver of requirement, or both.	
Waiver examination to qualify for advanced placement	
English test for international students (when required)	
Laboratory check-out fee, for failure to check out of chemistry laboratory by the deadline date set by the instructor (a student who drops a chemistry course before the end of the semester must check out of the laboratory at the next laboratory period)	
Charles E. Smith Center fee (for off-campus degree candidates only):	
Students registered as degree candidates in a program offered through the Division of Continuing Education may purchase, on a per-semester basis, a card entitling them to use the Smith Center facilities for that semester or session. Students must first obtain from the Division a certificate attesting to degree candidacy	
Statement issued by the Department of Romance Languages and Literatures certifying the degree of oral and/or written fluency and command of the French, Italian, Portuguese, or Spanish languages	
Transcript fee	
Replacement of lost or stolen picture identification card	

Payment of tuition for thesis or dissertation research entitles the candidate during the period of registration, to the advice and direction of the member of faculty under whom the thesis or dissertation is to be written. In case a thesis or dissertation is unfinished, additional semester hours may be required in accordance with the regulations of the school in which the student is registered.

Registration for on-campus courses in the University entitles each student the following University privileges: (1) the use of the University library; (2) services of the Career and Cooperative Education Center; (3) gymnasium privileges.

ages; (4) admission to all athletic contests, unless otherwise specified. These privileges terminate when the student withdraws or is dismissed from the University.

Postdoctoral Study

Those who have graduated from George Washington University with a Ph.D., M.D., D.Sc., D.B.A., or D.P.A. may continue any studies in the University without payment of tuition (contingent upon the availability of space) and may enjoy all University library privileges. Such graduates are required to pay a nominal fee based on the prevailing credit hour rate for one semester hour, as well as the Marvin Center fee, in order to establish their active membership in the University. The use of laboratory space and equipment is contingent upon availability, and the cost of all laboratory or special library material is paid by the graduate. Special arrangements for such privileges must be made with the dean two months in advance of the semester in which the graduate wishes to register. Postdoctoral work taken under this privilege may not be taken for credit.

Payment of Fees

No student is permitted to complete registration or attend classes until all charges are paid or until arrangements for payment have been made. Tuition and fees for each semester are due and payable in full at the Office of the Cashier at the time of each registration. Checks should be made payable to George Washington University, with the student identification number in the upper left corner.

The Student Accounts Office has responsibility for billing and maintaining student accounts for tuition, various fees, and room and board charges. A student registered for 6 semester hours or more may use a deferred payment plan at the time of each registration, which permits payment of one-half of the total tuition and fees (except for fees payable in advance) at the time of registration and the remaining half on or before Wednesday of the eighth week of classes for the fall and spring semesters. Interest at the rate of 12 percent per annum on the unpaid balance will be charged from the first day of the semester to the date payment is made. A 10-month payment plan is also available.

Students receiving tuition assistance in the form of scholarships, government education contracts, or other forms of tuition awards are not permitted to use deferred payment unless the total tuition and fee charges exceed the value of the education awards by \$2,600 or more. Under such circumstances the student may be permitted to pay one-half of the amount due at the time of registration and to defer the balance.

After registration is completed, students who fail to make any payment when due will be automatically charged a \$15 late-payment fee and will be subject to an interest charge of 12 percent per annum. Accounts that become 30 days past due will be financially encumbered. In the event a student's account is financially encumbered, the student forfeits rights to the use of deferred payment in future semesters, and the Student Accounts Office will notify the registrar to withhold grades, future registration privileges, transcripts, diplomas, and other academic information until the account is settled. In addition, applications for institutional and federal financial aid cannot be processed until all encumbrances, including those for unpaid emergency loans, have been paid. Financial settlement will require payment in full of all amounts due to the University in addition to a financial reinstatement fee of \$35. Accounts that must be

referred to a collection service will be assessed all collection costs, including charges by the collection agency.

Students auditing courses are subject to all fees charged to students registering for credit.

Returned Check Policy—A student whose check is returned unpaid by the bank for any reason will be charged a returned check fee. If the check is not paid within 15 days, the student's account will be financially encumbered, with the same restrictions and penalties as for late payment enumerated above.

GW Monthly Payment Plan—The University's Monthly Payment Plan is available to all students. Upon receipt of the appropriate application, the University will establish an account and mail payment coupons and envelopes for use to ensure proper credit of payments. The plan covers an academic year (excluding summer sessions) and requires ten monthly payments, May through February. Payments must be received by the 10th of each month. If a decision is made in May to use this plan, all missed payments must be made to bring the account current to the time participation is initiated. There is no charge and no interest for using the plan if all payments are made as scheduled.

Commercial Prepaid and Deferred Payment Plans—Several commercial programs for parents who wish to pay for college on a monthly basis are available. Terms and conditions vary, but most provide a life insurance policy in contract. For specific details and applications, address inquiries to the following:

Mellon Bank Edu-Check Plan, P.O. Box 8888, Wilmington, Del. 19899
Knight Insured Tuition Payment Plan, 855 Boylston Street, Boston, Mass. 02116
School-Chex, Irving Trust Company, 61 Broadway, New York, N.Y. 10007
Educational Loan Program, The Riggs National Bank, 1120 Vermont Ave., N.W., Washington, D.C. 20005

The Tuition Plan, Inc., 57 Regional Drive, Concord, N.H. 03301

Off-Campus Courses

Fees for each semester are due and payable in full at the time of each registration; however, a student registering for a credit course lasting 13 weeks or longer may use deferred payment at each registration to make payments in two equal installments—one-half at the time of registration and one-half by the eighth week of the semester. Payments are due at the stipulated times. Interest at the rate of 12 percent per annum on the unpaid balance will be charged from the beginning of each semester to the date payment is made.

Students receiving partial government tuition assistance, employee benefits, and partial scholarships must pay their portion of the tuition in full at the time of registration.

Except for specified special sessions, tuition and fees for credit courses lasting less than 13 weeks and for all noncredit courses are payable in full at registration.

Withdrawals and Refunds

Applications for withdrawal from the University or from a course after the registration period must be made in writing to the dean of the college, school division and to the registrar. Notification to an instructor is not an acceptable notice (see Withdrawal, page 48). Financial aid recipients must notify the Office of Student Financial Assistance in writing. No refund of the \$200 tuition deposit required of entering students is granted.

authorized withdrawals and changes in schedule, cancellations of semester tuition charges and fees will be made in accordance with the following schedule for the fall and spring semesters:

Complete withdrawal from all courses (on-campus students):

Withdrawal dated on or before the end of the first week of the semester	80%
Withdrawal dated on or before the end of the second week of the semester . .	60%
Withdrawal dated on or before the end of the third week of the semester . . .	40%
Withdrawal dated on or before the end of the fourth week of the semester . . .	25%
Withdrawal dated after the fourth week of the semester	None

Partial withdrawal: If the change in program results in a lower tuition charge, the refund schedule above applies to the difference.

Regulations governing student withdrawals as they relate to residence hall and food service charges are contained in the specific lease arrangements.

Summer Sessions: In cases of authorized withdrawals from courses, refunds of 75% of tuition and fees will be made for courses dropped within the first seven calendar days following the scheduled registration day. No refund will be made for courses dropped thereafter.

Refund schedule for off-campus registration:

After the first class meeting but before the third class meeting	80%
After the third class meeting but before the fifth class meeting	50%
After the fifth class meeting	None

No refund will be made for sessions of less than 21 days.

University policies of the University are in conformity with guidelines for refunds as adopted by the American Council on Education. Federal regulations require that financial aid recipients use such refunds to repay financial aid received for that semester's attendance. This policy applies to institutional aid as well.

In no case will tuition be reduced or refunded because of absence from classes.

Authorization to withdraw and certification for work done will not be given a student who does not have a clear financial record.

Students are encouraged to provide their own cash funds until they can make living arrangements in the community.

FINANCIAL AID

George Washington University offers a program of financial assistance for undergraduate and graduate students. Undergraduate aid consists of two basic types of awards for academic achievement without reference to financial circumstances (honor scholarships) and scholarships, grants, loans, and employment based on academic achievement and demonstrated financial need. The program of financial assistance for graduate students includes assistantships, fellowships, research fellowships, graduate scholarships, research appointments, part-time employment, and loans. All undergraduate gift aid (institutional scholarships and grants and federal grants) requires that the student be working on the first undergraduate degree. Undergraduate gift aid requires that the recipient be registered for a minimum time course load at GW. Loans and resident assistantships not based on financial need are available to undergraduates and graduates alike. In general, consideration for financial aid is restricted to students in good academic standing who meet the minimum grade point average for particular awards and are not financially encumbered by any other University office. Applications for institutional or federal aid cannot be processed if the relevant tax returns have not been filed in accordance with the IRS Code. Documents submitted as part of aid applications become the property of the University and cannot be returned. Federal regulations require that the University report suspected cases of fraud or misrepresentation to the appropriate federal, state, and local authorities.

Information on the various programs follows.

SCHOLARSHIPS AND OTHER FORMS OF AID FOR UNDERGRADUATES

Presidential Honor Scholarships—Incoming freshmen with superior academic credentials may be eligible for one of GW's Presidential Honor Scholarships, which are based entirely on academic excellence without regard to financial need. Full- and half-tuition scholarships, respectively, are awarded to Finalists and Semifinalists in the National Merit Scholarships program, the National Hispanic Scholar Awards Program, the National Achievement Scholarship Program for Outstanding Negro Students, and other such national academic competitions. Half-tuition scholarships are also available to other outstanding applicants. Renewal is dependent on annual reapplication by February 1 for satisfactory academic progress (a B- average for at least 15 credit hours per semester, exclusive of courses not counted toward graduation).

Honor Scholarships—Board of Trustees honor scholarships of up to \$5,000 per year for tuition for the academic year, based entirely upon academic achievement without regard to financial need, may be renewed for continuing students who received them as freshmen.

Need-Based Aid—The University offers extensive programs of scholarships, grants, loans, and employment based upon demonstrated need. The University participates in the Perkins Loan, Pell Grant, Supplemental Educational Opportunity Grant, and the College Work-Study programs.

Applications and supporting credentials for financial aid must be filed by February 1 (incoming freshmen) and March 1 (transfers and continuing undergraduates) preceding the academic year of the award for the fall semester; by November 1 for the spring semester; and by April 1 for the summer session. (Only students who are enrolled in this University for at least 6 semester hours in the immediately preceding spring semester or who have applied for financial aid for the following fall semester are eligible for consideration for summer session financial aid.) A student must reapply for all financial aid, including schol-

ships, each year; renewal is contingent upon funds being available when the student completes the application.

Complete information concerning financial assistance is contained in the student financial aid pamphlet, which is available at the Office of Student Financial Assistance, George Washington University, Washington, D.C. 20052. The following scholarships are available to students in Columbian College of Arts and Sciences, the School of Education and Human Development, the School of Government and Business Administration, and the Elliott School of International Affairs.

The George Washington University Board of Trustees Scholarships—Full- and partial-tuition scholarships begin in the fall semester and may be renewed through the senior year, provided the holder reapplies by the published deadlines, maintains a B- average, and continues to be in financial need. Candidates must plan to select a curriculum leading to a bachelor's degree in any school listed above.

Other Scholarships

Achievement Rewards for College Scientists Foundation Scholarship
 Herman Page Allen Memorial Scholarship Fund
 Alumni Scholarships
 J. Anderson Scholarship
 J. and J.D. Antonelli Scholarship Fund
 Athletic Scholarship Fund
 Ron Andrews Scholarship
 Frid Weeks Benson Scholarship
 J. N. Brawner, Jr., Foundation Scholarship Fund
 D. Britt Scholarship Fund
 J. Ellen Caplin Scholarship
 E. M. Carper Undergraduate Scholarship Fund
 J. K. Carr Scholarships
 J. M. Carter Scholarship
 J. E. Casassa Memorial Foundation Scholarship
 J. Edward Miller Chapman Educational Foundation Scholarship
 Chesapeake and Potomac Telephone Company Scholarship
 Columbian Women Scholarship Funds
 Victoria Briggs Scholarship Fund
 Elizabeth V. Brown Scholarship Fund
 Grace Ross Chamberlin Scholarship Fund
 College Women's Scholarship Fund
 Columbian Women Members' Scholarship Fund
 J. Hughes Dufour Scholarship Fund
 J. Watson W. Eldridge, Jr., and John F. Eldridge Scholarship Fund
 Founders of Columbian Women Scholarship Fund
 J. Lees Hardy Foundation Scholarship Fund
 J. Young Herron Scholarship Fund
 J. Maynard Knapp Scholarship Fund
 J. B. Kraft Scholarship Fund
 J. McWilliams Scholarship Fund
 J. Louise Ralph Turner Scholarship Fund
 J. and John H. Davis Scholarship
 J. Davis Scholarship
 J. of Columbia Daughters of the American Revolution Scholarship

District of Columbia Institute of Certified Public Accountants Scholars
Accounting
Estella Constance Drane Scholarship
Vincent J. DeAngelis Scholarship Fund
Robert Farnham Scholarship
Federal Government Accountants Association—Washington, D.C., Chap
Scholarship in Accounting
Esther Brigham Fisher Scholarship
Dean James Harold Fox Scholarship
Geico Achievement Award
GW Tennis Alumni Association Scholarship
Gary C. and Leslie Granoff Scholarship Fund
Mildred Green Memorial Scholarship Fund
Gridiron Foundation of the Gridiron Club Scholarship
Isadore and Bertha Gudelsky Family Scholarship
Anna Spicker Hampel Scholarship
Theo Campbell Hartman Scholarship
Elma Lewis Harvey Scholarship
Hazelton Scholarship
George F. Henigan Scholarships in Debate
Hyundai Scholarship Fund
Albert A. and Esther C. Jones Scholarship Fund
Allen M. Jones Scholarship Fund
David B. and James L. Karrick, Jr., Scholarship Fund
Samuel and Elizabeth Kay Scholarships
Amos Kendall Scholarship
L. Poe Leggette Memorial Scholarship Established by WRGW
Thaddeus A. and Mary Jean Lindner Scholarship Fund
Calvin D. Linton Endowment Scholarship Fund
Mary and Daniel Loughran Scholarship
Martha's Marathon Residence Hall Scholarship
Marshall Memorial Scholarship Fund
Maud E. McPherson Scholarship in English and American Literature
A. Morehouse Scholarship
E. K. Morris Education Fund Scholarships
Helen Marie and Thomas E. Orr Scholarships
Henry and Caroline Orth Scholarship Fund
Thornton Owen Scholarship
Pan-Dodecanesian Association of America Scholarship
Hardy Pearce Scholarship Fund
James and Theodore Pedas Scholarship
Phi Delta Gamma Scholarships
Fred B. and Alma D. Pletcher Scholarship Fund
Levin M. Powell Scholarships
Research Assistantships in Operations Research and Related Fields
Resident Assistantships
Jack B. Sacks Foundation, Inc., Scholarship
Henry Whitefield Samson Scholarship Fund
Scottish Rite of Freemasonry Scholarship Fund
Cecelia M. Sehart Scholarship Fund
Lula M. Shepard Scholarships
Mildred Shott Scholarship Fund
Sigma Delta Chi Foundation of Washington, D.C., Scholarships

rna Sislen Guitar Scholarship
 Margaret Lucille Snoddy Scholarship
 vid Spencer Scholarship
 orge Steiner Scholarship in Music
 ry Lowell Stone Scholarship
 Charles Clinton Swisher Scholarships
 Office of Education Traineeships
 University Players Scholarship in Memory of L. Poe Leggette
 William Walker Scholarship
 Gail Ann Brown and Henry Kirk White Scholarship Fund
 n Withington Scholarship
 men's Physical Education Alumnae Association Scholarship
 William G. Woodford Scholarship
 n Woodhull Scholarship
 ta Club Scholarship
 bara Jackman Zuckert Scholarship Fund for Blind Part-Time Students

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he GW Grant Program—Established for needy students who have achieved a
 r better average at GW.

1st Century D.C. Scholars Program—Established to provide full scholarships
 outstanding graduates of D.C. public schools.

ther Grants—The following funds have been established for students from
 District of Columbia and the Washington metropolitan area.

ie Mae/H.D. Woodson High School Grant

Educational Opportunity Program Tuition Grants

Club of Walt Whitman High School, Bethesda, Md., Grant

riott Foundation Grant

Washington Post/Eastern High School Incentive Scholarship Program

Family Tuition Discount Plan

dent attending George Washington University as a full-time undergraduate
 has a sibling also attending GW for the same academic year as a full-time
 undergraduate may qualify for a GW Family Grant amounting to one half of
 on for the second student. For further information on this program, write to
 Office of Student Financial Assistance.

ASSISTANTSHIPS, FELLOWSHIPS, AND OTHER FORMS OF AID FOR GRADUATE STUDENTS

lication and correspondence concerning assistantships, fellowships, train-
 ings, or graduate scholarships should be sent directly to the dean of the
 ol concerned and addressed to George Washington University, Washington,
 20052. Unless otherwise specified, application and supporting credentials
 ld be submitted no later than February 1 preceding the academic year for
 h the award is made. Application for admission to graduate study is a
 requisite for consideration.

Assistantships

earch Assistantships—May be available in departments with faculty who
 articipating in sponsored research.

Graduate Teaching Assistantships—Available to graduate students in master's and doctoral programs in most departments of the University. A graduate teaching assistant receives financial compensation for a designated unit of service to the assistant's major department of instruction.

Fellowships, Internships, Traineeships, Special Programs

The following fellowships, internships, and traineeships are available to students in the Graduate School of Arts and Sciences, the School of Education, the School of Human Development, the School of Government and Business Administration, and the School of International Affairs. The University also offers many other fellowships that are available to students in these colleges and schools.

University Fellowships—Available to graduate students in master's and doctoral programs in most departments of the University. Fellowships are based on merit and each fellow may receive a stipend and/or tuition allowance.

Research Traineeships—Available under numerous sponsored programs in a number of departments. Currently, the basic medical science departments, the Departments of Psychology and Speech and Hearing offer such programs. Stipends vary; information is available from the departments.

Other Fellowships, Internships, Traineeships, and Special Programs—
 Achievement Rewards for College Scientists Foundation Fellowship
 Robert A. Aleshire Fellowship Fund
 American Association of Collegiate Schools of Business Fellowship
 American Civilization Fellowships
 American Civilization Internships (Smithsonian Institution—George Washington University Cooperative Program)
 American Iron and Steel Institute Fellowship
 Arthur Anderson & Co. Doctoral Fellowship
 Aryamehr Research Fellowships
 Benjamin Banneker Fellowship for Washington Area Studies
 Bell Atlantic Graduate Fellowship
 Winfield Scott Blaney Fellowship in International Affairs
 Oliver T. Carr, Sr., Memorial Fellowship in Urban and Regional Planning
 Center for Washington Area Studies Fellowship
 Thomas Alva Edison Fellowship
 Elementary Teacher Education Internships
 Ernst & Ernst Grant to Doctoral Candidates in Business or Economics
 Health Services Administration Fellowships
 Richard D. Irwin Doctoral Fellowships
 Marvin L. Kay Fellowship in Finance
 Rita H. Keller Scholarship Fund
 Isabella Osborn King Research Fellowships
 Loula D. Lasker Fellowships in Housing, City Planning, or Urban Renewal
 Morris Louis Fellowship in Painting
 George McCandlish Fellowship in American Literature
 Mellon Foundation Fellowships
 Minorities in Planning and Related Professions Program
 National Association of Purchasing Management Fellowship
 National Historical Publications Commission—George Washington University
 Cooperative Research Fellowships
 National Science Foundation Graduate Fellowships
 Resources for the Future, Inc., Fellowship Prize
 Rose Bibliography Internships

Thomas Bradford Sanders Fellowships
 British Rite Foundation Fellowships
 Office of Education Fellowships
 Public Health Service Traineeships
 Public Health Service Traineeships in Comprehensive Health Planning
 Studies Fellowships, Department of Housing and Urban Development
 Transportation Center Fellowship
 Wald Barbour Weintraub Research Fellowship in Biological Sciences

Graduate Scholarships

Armed Forces Health Professions Scholarship Program (The Uniformed Services Health Professions Revitalization Act of 1972—Public Law 92-426)
 William C. Barbee Scholarship in Sculpture
 Anna K. Carr Scholarships
 Robert T. Carr, Jr., Scholarship in Urban and Regional Development
 Charles Edward Miller Chapman Educational Foundation Scholarship
 District of Columbia Institute of Certified Public Accountants Scholarship in Accounting
 Derrick H. Gibbs Scholarship in Health Services Administration
 Lillian Goodwin Endowment Scholarship
 George Harlow Foundation Scholarship
 Indai Scholarship Fund
 Robert A. and Esther C. Jones Scholarship Fund
 John M. Jones Scholarship Fund
 John and Daniel Loughran Graduate Scholarship
 George G. McGaw Scholarship in Health Services Administration
 Pearson Scholarship Fund
 Delta Gamma Scholarship Fund
 Fred Shott Scholarship Fund
 Chees Scholarships
 Scott Foundation Scholarships
 John and Sergius Yacobson Graduate Scholarship

Sponsored Awards for Graduate Study

Information regarding awards sponsored by foundations, professional and learned societies, industries, and others that may be used in support of graduate study is available at the Gelman Library, 2130 H St., N.W., first floor. Information is also available on distinguished programs, such as the Rhodes, Marshall, National Science Foundation, Fulbright, and Luce, as well as many others.

FINANCIAL AID AVAILABLE TO UNDERGRADUATE AND GRADUATE STUDENTS

Assistantships

Resident Assistantships—Available to graduate students and seniors in any field of study who are interested in working with the student personnel program in university residence halls. Specific duties vary with the position, but they usually consist of counseling, advising student groups, and administration. Reimbursement includes salary and a furnished room for the academic year. All positions are part time, and staff members are required to enroll as full-time students in degree programs. Further information may be obtained from the Office of Housing and Residence Life.

Loan Funds

The following loan funds are available to undergraduate and/or graduate students in Columbian College of Arts and Sciences, the Graduate School and Sciences, the School of Education and Human Development, the School of Government and Business Administration, and the Elliott School of International Affairs. A separate application must be submitted for all loan programs. Applications for the Perkins Loan Program should be filed no later than January 1 (incoming freshmen), March 1 (transfers and continuing undergraduate students), or April 1 (graduate students) for the following academic year. Complete information is contained in the student financial aid pamphlet, which is available from the Office of Student Financial Assistance, George Washington University, Washington, D.C. 20052.

American Medical Association Nursing Home Administration Loan Fund
 George F. Henigan Loan Fund
 Inner-City Student Loan Fund
 International Student Loan Fund
 Joanne Jacobs Student Loan Fund
 W. K. Kellogg Foundation Hospital Administration Loan Fund
 Jessie B. Martin Loan Fund
 Perkins Loan Program
 Barney Plotnick, M.D., Student Loan Fund
 Hiram Miller Stout Memorial Loan Fund
 University Student Emergency Loan Fund
 Edmund W. Dreyfuss Loan Fund
 Peter and Doris Firsht Loan Fund

Stafford Loans (formerly Guaranteed Student Loans)—George Washington University is an eligible participant in the Stafford Loan Program. Freshmen and sophomores may apply for a maximum of \$2,625 per year; juniors and seniors a maximum of \$4,000 per year. Graduate students may apply for a maximum of \$7,500 per year. Students who intend to use the loan for payment of tuition and registration should submit an application, as well as all required supporting documents, no later than June 1 (fall semester registration), October 1 (spring semester registration), or March 1 (summer registration).

Parent Loan for Undergraduate Students—George Washington University is also an eligible participant in the Parent Loan for Undergraduate Students (PLUS) and the Supplemental Loans for Students (SLS). The interest rate on the loans is variable, based on the interest rate on U.S. Treasury bills, with a maximum of 12%. Repayment begins 60 days after the disbursement of the loan. Parents of dependent undergraduate and graduate students may apply for up to \$4,000 per year for each student. Independent undergraduate and graduate students may apply for up to \$4,000 per year on their own behalf. Students who intend to use the loan for payment of tuition at registration should submit an application no later than June 1 (fall semester registration), October 1 (spring semester registration), or March 1 (summer registration).

The CONSERN Loan Program, jointly sponsored by the District of Columbia and the Consortium of Universities of the Washington Metropolitan Area, provides supplementary aid to creditworthy students and parents who have a special need remaining after having exhausted benefits from all other federal, state, and institutional aid programs for which they qualify (except CWSP, PLUS, and HEAL). Applicants must be enrolled at least half time and must demonstrate financial need otherwise unmet. CONSERN loans range from \$2,000 up to \$4,000 per year.

of education for the academic year and carry a variable interest rate that was 40% in 1989.

Student Employment

The University participates in the College Work-Study Program. Inquiries should be addressed to the Office of Student Financial Assistance. In addition, the Career Services Center maintains a registry of both full-time and part-time positions available in the Washington area for undergraduate and graduate students. After registration, students may apply at the Career Services Center for interviews and referrals to positions for which they are qualified.

INTERNATIONAL STUDENTS

Undergraduate international students with proven financial need who have completed one semester of full-time work (15 hours) at this University with a B average are eligible to apply for the Board of Trustees Scholarships; those with a C average are eligible to apply for GW Grants. Aid is awarded in the spring for the following academic year. See instructions for applying for undergraduate financial aid, above.

Limited awards for graduate teaching assistantships and University fellowships are the responsibility of the chairman of the department or dean of the school in which the degree is to be earned.

International students applying for graduate teaching assistantships must have minimum scores of 570 on the Test of English as a Foreign Language (55 in listening comprehension) and 250 on the Test of Spoken English. International students applying from outside the University may be appointed to graduate teaching assistantships but must attend a five-day orientation and evaluation program held prior to registration. Those found to have difficulties with English will be required to enroll in specified courses in English as a Foreign Language (tuition fees for these courses will be waived) and will be assigned nonteaching duties in place of classroom instruction. Such students will be reevaluated each semester; if they are not designated as qualified to give classroom instruction by the end of one academic year, the teaching assistantship will not be renewed. Graduate students who are presently enrolled at GWU and have been proposed as candidates for graduate teaching assistantships by their departments must pass the Test of English as a Foreign Language at the levels indicated above and will be required to complete successfully the English for International Students interview and the orientation and evaluation program before they will be considered for graduate teaching assistantships.

For further information on requirements for international teaching assistants, contact the Special Assistant to the Vice President for Academic Affairs, Rice Hall, fifth floor, George Washington University, Washington, D.C. 20052.

Long-term loan funds for undergraduate and graduate international students are limited in amount and are available only to those foreign-born persons who have established resident status in the United States through the Immigration and Naturalization Service.

Students who wish to study in the United States should have available sufficient funds to cover expenses for one full year before attempting to enter a college or university. The cost at this University for one academic year (September–May) is \$18,900 in 1989–1990 and will be substantially higher in 1990–1991; generally speaking, expenses for international students are about \$2,000 over the average figure, which includes room and board, tuition, books, clothes, and dental expenses, but not travel, holiday, or medical expenses.

VETERANS BENEFITS

The Veterans Benefits office, located on the third floor of Rice Hall, 2121 N.W., assists students entitled to educational benefits as active-duty personnel, veterans, or as widows or children of deceased or totally disabled veterans. This office also provides information on any problems that may arise concerning their benefits. This office also provides information on certification of enrollment and attendance to the Veterans Administration. Educational allowances will be paid.

When feasible, students entitled to benefits as active-duty personnel, veterans, or dependents of veterans should consult with the veterans counselor before submitting applications to the Veterans Administration. All such students should obtain the instruction sheet issued by the veterans counselor, which lists the requirements to be fulfilled before certification of enrollment can be made to the Veterans Administration and that includes other information of interest.

The Veterans Administration is at 941 N. Capitol St., N.E., Washington, D.C. 20421.



PRIZES

Accountancy Prizes—Three prizes for academic excellence awarded annually by the Department of Accountancy—one at the undergraduate level, one at the Master of Accountancy level, and one at the Master of Taxation level.

Elizabeth B. Adams Prize—Awarded annually by the Department of Management Science to a graduating student for outstanding performance in the field of information systems management. The recipient is selected on the basis of scholarship, leadership within the Department, contributions to the University, and service to the community.

Morris M. Aein Memorial Prize—Awarded to a deserving student for academic excellence in drawing.

Alpha Chi Sigma Prize—Awarded annually by the Alpha Pi Chapter to the student who has attained the highest academic record in courses in chemistry. The name and year of graduation of the student is inscribed on a bronze plaque. The winner must have had at least 16 hours in chemistry, including the semester, at this University.

American Chemical Society Prize—Awarded to an undergraduate student who has completed the junior year and who has demonstrated excellence in analytic chemistry.

American Institute of Certified Planners Outstanding Student Prize—Awarded to a qualified candidate for the Master of Urban and Regional Planning who has demonstrated significant service to the community, University Department, or professional planning community.

American Institute of Chemists Prize—A medal awarded annually to a graduating student majoring in chemistry who excels in scholarship, intellectual achievement, and leadership.

Amling Prize—Established by Dr. Frederick Amling in honor of his parents, Gustav and Elsie Amling, for the best investment report in Business Administration 123, Investment and Portfolio Management.

Department of Art Prizes—Two prizes (one for a senior in art history and one for a senior in the fine arts) awarded annually to the most promising students, as determined by the departmental faculty.

William C. Barbee Prize—Awarded to a deserving student for excellence in sculpture and sculptural ceramics.

Perry Botwin Prize—Awarded annually to an outstanding senior in the program in special education of the School of Education and Human Development.

The Walter G. Bryte, Jr., Achievement Award—Provided by Walter G. Bryte, Jr., Colonel, U.S. Air Force (retired), first Professor of Air Science at George Washington University. The award is presented annually primarily to that undergraduate residence hall, secondarily to any other activity at the University, that has shown, under the leadership of its elected or designated head, the most improvement or excellence in its support of the principles and aims of the United States of America and George Washington University. The hall or other activity will be awarded a cash prize, and the name of its leader and the hall or activity will be engraved on a silver trophy.

Buka Family Prize—Provided by Ruth Buka in honor of her parents, Georg and Rosa Buka, and her sister, Hilde Buka-Lacour. It is awarded to the most outstanding student in the Department of Germanic Languages and Literatures.

Sylvia L. Bunting Prize—Awarded annually to a graduate student in the field of biology or zoology.

Byrne Thurtell Burns Memorial Prize—Awarded to the senior majoring in chemistry who shows the greatest proficiency in organic chemistry, as evidenced in a comprehensive examination, and who possesses such qualifications of mind and character as to give promise of future achievement.

Business Administration Prize—Awarded annually by the Business Administration Department to the outstanding graduating senior in business administration on the basis of scholarship, leadership, and service to the University.

Wilbur J. Carr Prize—Established in 1962 by Edith K. Carr, former Trustee of the University, in memory of her distinguished husband, who was graduated from the School of Comparative Jurisprudence and Diplomacy in 1899. It is awarded annually to that student in the graduating class of the University who has demonstrated outstanding ability in the study of international affairs and who has given evidence of possessing in marked degree the qualities that produce the good citizen and the dedicated public servant.

Chemical Rubber Company Freshman Chemistry Achievement Prize—Awarded annually to the freshman student who has demonstrated the greatest achievement in Chemistry 15-16.

Chemical Society of Washington Prize—Awarded to an outstanding undergraduate in the junior year who is majoring in chemistry.

Astere E. Claeysens Prize—Established in 1981 by the Trustees of the Bess and Arthur Dick Family Foundation. It is awarded for the best original work in expository writing by a student enrolled in the University.

Bertice Cornish Prize—Awarded annually to an outstanding student completing a graduate program in special education.

John Henry Cowles Prizes—Two prizes, established by John H. Cowles, Grand Commander of the Supreme Council of Thirty-third Degree (Mother Council of the World) of the Ancient and Accepted Scottish Rite of Free-masonry, Southern Jurisdiction of the United States of America. Awarded upon graduation to the undergraduate or undergraduate student with the best overall scholastic achievement and leadership potential in the School of Government and Business Administration and in the Elliott School of International Affairs.

DeWitt Clinton Croissant Prize—Awarded annually to the undergraduate student enrolled in a course in drama or active in University dramatics who presents to the English Department the best essay on drama or the theater.

E.K. Cutter Prize—Established by Marion Kendall Cutter "for excellence in study of English." Awarded to the member of the graduating class whose work in English, combined with general excellence, shows the most marked aptitude for and attainment in English studies.

Isaac Davis Prizes—Established in 1847 and awarded annually to the seniors who have made the greatest progress in public speaking while enrolled at the University. Awards are determined by a public-speaking contest in which participants deliver original orations. Only members of the senior class of the Columbian College of Arts and Sciences who are candidates for the degree of Bachelor of Arts or Bachelor of Science are eligible to compete.

Henry Grattan Doyle Memorial Prize—Established in memory of Henry Grattan Doyle, a former Dean of Columbian College. Awarded annually to an outstanding senior for excellence in Spanish.

Elliott School of International Affairs Alumni Association Prize—Awarded annually to a graduate of the Elliott School of International Affairs (graduate or undergraduate degree recipient) who, in the opinion of the Deans of the Faculty, deserves recognition for academic achievement and contribution to the life of the George Washington University and its programs and goals.

Elton Prize—Established by the Reverend Romeo Elton, of Exeter, England. Awarded annually to the student with the highest average in the most advanced course in the Greek language and literature.

Jesse Frederick Essary Prize in Journalism—Established by Helen Essary in memory of her husband and awarded annually to a student who has given promise of sound citizenship and who submits the best printed and published evidence of ability in "forthright reporting" and good journalistic writing in a student publication or elsewhere.

Jessie Fant Evans Prize—A bequest of Joshua Evans, Jr., in 1971, in recognition of his wife's distinguished record at and service to the University, on the Board of Trustees she served as the first woman member. Awarded annually to an outstanding senior student in a contemporary history course.

Joshua Evans III Prize in Political and Social Science—A memorial prize established by friends because of an outstanding life. Awarded annually to that student in the graduating class "who has demonstrated his/her signal ability in the social and political sciences and who has given promise of the interrelation of that ability in good citizenship among his/her fellows."

Willie E. Fitch Prize—Established by James E. Fitch in memory of his wife. Awarded annually to a senior student for the best examination in chemistry.

Charles E. Gauss Prize—Established in honor of Charles E. Gauss, Elton Professor of Philosophy from 1945 to 1964. Awarded annually to a graduating senior for excellence in philosophy.

Alice Douglas Goddard Prize—A memorial established by Frederick Joseph Goddard, of Washington, D.C. Awarded annually to the senior student making the highest average in American literature.

Edward Carrington Goddard Prize—Established by Mary Williamson Goddard, Alice Douglas Goddard, and Frederick Joseph Goddard, of Washington, D.C., in memory of Edward Carrington Goddard, class of 1881. Awarded annually to a junior or senior student making the highest average in French language and literature.

Morgan Richardson Goddard Prize—A memorial established by Mary Williamson Goddard, Alice Douglas Goddard, and Frederick Joseph Goddard.

Washington, D.C. Awarded to the junior or senior student making the highest average in the following fields: business administration, economics, international business, or public accounting.

Harmon Choral Prize—Awarded annually for significant musical accomplishment and outstanding contribution to the choral program.

Ching-Yao Hsieh Prize—Two prizes awarded annually, one to an undergraduate and one to a graduate student in the Department of Economics.

Gardiner G. Hubbard Memorial Prize in United States History—Established by Gertrude M. Hubbard in memory of her husband and awarded annually to that member of the graduating class majoring in history who has maintained the highest standing in courses in United States history.

Human Services Program Prize—Awarded by the Department of Human Services to a graduating senior who best exemplifies the attributes of service to the profession and academic achievement while a student at the University.

Cecile R. Hunt Prize—Offered annually to deserving art students and every two or three years to participants in the University's Art Alumni Exhibition.

International Business Prize—Two prizes awarded annually by the School of Government and Business Administration to students specializing in international business, one awarded to a graduating senior and one awarded to a graduate student.

Elmer Louis Kayser Prize—Established by Paul and Elizabeth Rutheiser to be awarded annually by the Department of History for the best thesis in history submitted by a candidate for the degree of Master of Arts.

David Lloyd Kreeger Prizes in Art—Eight prizes given by Mr. Kreeger, six in the fine arts and two in art history (including museology). Fine arts prizes are awarded to a senior or graduate student in painting, sculpture, printmaking, ceramics, photography, and visual communication. One prize in art history is awarded to a senior and one to a graduate student. Candidates for the prizes must submit original papers or works of art. Winners are selected by distinguished representatives of the field of art in the Washington, D.C., area.

Minna Mirin Kullback Memorial Prize—Established in 1968 by Solomon Kullback in memory of his wife. Awarded annually by a committee of faculty members of the Department of Statistics to a full-time undergraduate or graduate student majoring in statistics, who will have completed 18 semester hours of statistics courses by the end of the spring semester.

John Francis Latimer Prize in Classics—Established in 1973. Awarded to a graduating senior who has made the most outstanding record as a major in the Department of Classics.

Hilda Haves Manchester Prize in Sociology—Established in honor of Hilda Haves Manchester, B.A. 1932, an outstanding student whose major field was sociology. Awarded annually by Columbian College of Arts and Sciences to the senior student majoring in sociology who has the highest scholastic record.

The Barry Manilow Endowed Prize in Music—Established in 1983. Awarded annually to a student majoring in music. The award is made on the basis of academic performance and musical ability, as determined by a committee of faculty appointed by the chair of the Music Department.

Vivian Nellis Memorial Prize—Awarded to a student in the English Department who has shown special promise in the field of creative writing.

Phi Delta Kappa Prize—Awarded annually by the George Washington University Chapter to an outstanding senior in a teacher education program in the School of Education and Human Development.

Phi Delta Kappa Research Prize—Awarded annually by the George Washington University Chapter to a graduate student, for an outstanding research project.

Phi Eta Sigma Prize—A choice book selected from the field of the recipient's major, awarded annually by the George Washington University Chapter to the student attaining the highest scholastic average in the first full semester of college. The winner's name is engraved on a plaque in the Office of the Dean of the Columbian College of Arts and Sciences.

Pi Lambda Theta Prize—Awarded annually by Alpha Theta Chapter to the outstanding senior in a teacher education program in the School of Education and Human Development.

Psi Chi Prizes—Two prizes awarded annually by the George Washington University Chapter to the best undergraduate student in experimental psychology and to the M.A. degree candidate or second-year graduate student submitting the best thesis or research project in psychology.

Public Administration Prize—Awarded by the Department of Public Administration to the outstanding graduating student in public administration on the basis of scholarship, leadership, and service to the University.

Riggs Trust Award—Established by Francis J. Lyons, Vice-Chairman of the Board, Riggs National Bank, for the best graduate research paper in Business Administration 223, Investment Analysis and Portfolio Management.

Ruggles Prize—Established by Professor William Ruggles in 1859. Awarded annually to a candidate for a bachelor's degree for excellence in mathematics.

The Jack and Anne Ryan Award in Health Services Administration—Awarded annually to that health services administration student who displays excellence of analysis and writing skills in the preparation of a paper on a topic in health services administration.

Howard C. Sacks Prize—Awarded to a student in political science who has demonstrated outstanding academic achievement in the study of Far Eastern affairs.

Hermann and Johanna Richter Schoenfeld Prize—Established in grateful appreciation of the inspired teaching and devotion to his students of Dr. Hermann Schoenfeld, who for more than 20 years until his death in 1926 headed the Department of German. Hermann Schoenfeld, Ph.D., LL.D., was widely recognized as a scholar of distinction whose presence on the faculty added prestige to the University. This prize is given annually to a member of the graduating class for excellence in historical and cultural phases of German studies.

Julian H. Singman Prizes—Two prizes awarded annually, one in design and one in aquarelle painting.

Walton E. Smith Memorial Prize—Awarded annually by the Department of Management Science to a graduating student for outstanding performance in the field of information systems technology. The award is given to a student who has demonstrated exceptional performance on the comprehensive examination, on course work, and in contributions to the program by other means.

Society of Colonial Wars in the District of Columbia Prize—A cash prize awarded to a candidate for a graduate degree who, in the judgment of the faculty of the Department of History, submits a thesis or dissertation demonstrating excellence in historical research in American Colonial history. The University reserves the right to withhold the award if no thesis or dissertation attaining the required degree of excellence is submitted.

Staughton Prize—Established by the Reverend Romeo Elton and awarded annually to the student making the best record in the most advanced course in Latin language and literature.

Alfred E. Steck Memorial Prize—Awarded for proven excellence in the field of sculpture.

James MacBride Sterrett, Jr., Prize—Established in 1911 by Professor Sterrett in memory of his son. Awarded annually to the student who obtains the highest average in Physics 1 and 2.

Charles Clinton Swisher Historical Club Prize—Established in 1936 by the Charles Clinton Swisher Historical Club and augmented in 1941 by the bequest of Professor Swisher. Awarded annually to the student who submits the best essay covering some phase of medieval history.

James H. Taylor Graduate Mathematics Prize—Established in memory of James H. Taylor, former Professor of Mathematics at the University. Awarded annually to a graduate student for outstanding performance in mathematics.

Geza Teleki Prize—Awarded for outstanding work in the geological sciences.

Patricia M. Toel Memorial Prize—Awarded annually to a graduate student in photography to recognize outstanding achievement.

Benjamin D. Van Evera Memorial Prize—Awarded annually to that Graduate Teaching Fellow in Chemistry selected as the most effective teacher during the current academic year.

The Wall Street Journal Leadership Prize—Awarded annually to a graduating senior with a major field of study in finance within the Bachelor of Business Administration degree for outstanding academic performance and service to the University.

Thomas F. Walsh Prize—Established in 1901 and awarded annually to the student who submits the best essay in Irish history.

Elizabeth Reed Ward Award—Established by the finance faculty of the Business Administration Department in honor and memory of Elizabeth Reed Ward, who was a teaching assistant in finance. The award is to be made to an outstanding teaching assistant in the finance program.

Alexander Wilbourne Weddell Prize—Established in 1923 by Virginia Chase Weddell in memory of her husband. Awarded annually to a degree candidate who writes the best essay on "the promotion of peace among the nations of the world." The prize essays shall become the property of the University and shall not be printed or published without the written consent of the University. The University reserves the right to withhold the award if no essay attaining the required degree of excellence is submitted.

W.T. Woodson Prize—Awarded annually to a graduate student demonstrating outstanding achievement in educational administration in the School of Education and Human Development.



REGULATIONS

Students enrolled in the University are required to conform to the following regulations and to comply with the rules and regulations of the college, school, or division in which registered.

Students who withdraw or are suspended, or who, for any other reason, are not registered at the University for one semester or more, may reenter and continue work only under the regulations and requirements in force at the time of return. If a student knowingly makes a false statement or conceals material information on an application for admission, registration form, or any other University document, the student's registration may be canceled. If such falsification is discovered after the student has matriculated at the University, the student

may be subject to dismissal from the University. Such a student will be ineligible (except by special action of the faculty) for subsequent registration in the University.

STUDENT STATUS

For the purpose of defining student status, undergraduates taking 12 or more semester hours and graduates taking 9 or more semester hours are considered to be full-time students. All other students are considered to be part time.

ATTENDANCE

Students may attend only those classes for which they are registered. Regular attendance is expected. Students may be dropped from any course for unexcused absence.

SCHOLARSHIP REQUIREMENTS

Students who fail to maintain the scholarship requirements of the college or school, or division in which registered may be dismissed from the University.

Grades

Grades are mailed to students through the Office of the Registrar at the close of each semester. They are not given out by instructors or released over the telephone.

UNDERGRADUATE

The following grading system is used: A, Excellent; B, Good; C, Satisfactory; D, Low Pass; F, Fail; I, Incomplete; IP, Progress; W, Authorized Withdrawal; U, Unauthorized Withdrawal; P, Pass; NP, No Pass. Other grades that may be assigned are A-, B+, B-, C+, C-, D+, and D-. Except for courses that specifically state that repetition for credit is permitted, a candidate for a degree at this University may not repeat a course in which a grade of D or better was received, unless required to do so by the department concerned. A written statement, indicating that the student is required to repeat the course, must be submitted to the student's dean by the appropriate department chairman.

GRADUATE

The following grading system is used: A, Excellent; B, Good; C, Minimum Pass; CR, Credit; F, Fail; I, Incomplete; IP, Progress; W, Authorized Withdrawal; U, Unauthorized Withdrawal. Except for courses that specifically state that repetition for credit is permitted, a candidate for a degree at this University may not repeat a course in which a grade of C or above was received, unless required to do so by the department concerned. A written statement to this effect must be submitted to the student's dean by the appropriate department chairman.

INCOMPLETE/AUTHORIZED WITHDRAWAL

When another grade has not been assigned, the symbol I (Incomplete) or the symbol W (Authorized Withdrawal), or the symbol Z (Unauthorized Withdrawal) will be recorded. The symbol I indicates that a satisfactory explanation has been given the instructor for the student's inability to complete the required work in the course. At the option of the instructor, the grade of I may be recorded.

student, for reasons beyond the student's control, is unable to complete the work of the course, and if the instructor is informed of, and approves, such reasons before the date when grades must be reported. The grade may be used only if the student's prior performance and class attendance in the course have been satisfactory. Any failure to complete the work of a course that is not satisfactorily explained to the instructor before the date when grades must be turned in will be graded F. If acceptable reasons are later presented to the instructor, that instructor may initiate an appropriate grade change. The grade of Z is assigned when students are registered for a course that they have not attended and in which they have done no substantial graded work.

CHANGING A GRADE OF INCOMPLETE

For information concerning changing a grade of Incomplete, consult the regulations of the college, school, or division concerned.

THE QUALITY-POINT INDEX

Scholarship is computed in terms of the quality-point index, obtained by dividing the number of quality points by the number of semester hours for which the student has registered, both based on his or her record in this University. Quality points are computed from grades as follows: A, 4.0; A-, 3.7; B+, 3.3; B, 3.0; B-, 2.7; C+, 2.3; C, 2.0; C-, 1.7; D+, 1.3; D, 1.0; D-, .7; F, 0, for each semester hour in which the student has registered in a degree program. Courses marked CR, I, P, NP, W, or Z are not considered in determining the index, except that courses marked I will be considered when a final grade is recorded. With the exception of consortium courses, grades in courses taken at other institutions are not considered in computing the quality-point index.

Final Examinations

Final examinations for undergraduate courses are scheduled by the Office of the Registrar. Examinations for courses numbered 201 or above are scheduled, if desired, by the individual department or instructor.

Academic Dishonesty

The University community, in order to fulfill its purposes, must establish and maintain guidelines of academic behavior. All members of the community are expected to exhibit honesty and competence in their academic work. Incoming students have a special responsibility to acquaint themselves with, and make use of, all proper procedures for doing research, writing papers, and taking examinations.

Members of the community will be presumed to be familiar with the proper academic procedures and held responsible for applying them. Deliberate failure to act in accordance with such procedures will be considered academic dishonesty. Acts of academic dishonesty are a legal, moral, and intellectual offense against the community and will be prosecuted through the proper University channels.

Copies of the University policy on academic dishonesty can be obtained from the following officers: all department chairs, all academic deans, the Registrar, and the Vice President for Academic Affairs.

STUDENT CONDUCT

All students, upon enrolling and while attending The George Washington University, are subject to the provisions of the *Guide to Student Rights and Responsibilities*, which outlines student freedoms and responsibilities of conduct including the Code of Student Conduct, and other policies and regulations adopted and promulgated by appropriate University authorities. Copies of these documents may be obtained at the office of Judicial Affairs. Sanctions for violation of these regulations may include permanent expulsion from the University which may make enrollment in another college or university difficult. Regulations or requirements applicable only to a particular program, facility, or group of students may not be published generally, but such regulations or requirements shall be published in a manner reasonably calculated to inform affected students.

WITHDRAWAL

Withdrawal from a course or from the University requires the permission of the dean of the college, school, or division in which the student is registered. A grade of W will be recorded on the student's academic record. Permission to withdraw from the University will not be granted a student who does not have a satisfactory financial record (see Payment of Fees).

Each college, school, and division of the University sets deadline dates for withdrawal each semester concerning withdrawal. Withdrawal between these dates and the end of the semester is permitted only in exceptional circumstances.

All charges for courses from which the student withdraws are subject to the refund policy listed under Fees and Financial Regulations. Unauthorized withdrawal will result in the recording of a grade of Z for the course or courses.

CHANGES IN PROGRAM OF STUDY

Changes Within a College, School, or Division—A student may not substitute one course for another, drop courses (see Withdrawal, above), or change status from credit to audit or from audit to credit without the approval of the dean of the college, school, or division in which registered.

Change from one section to another of the same course may be made with the approval of the dean and the department concerned.

Change from one major field to another within the same college or school may be made with the approval of the dean.

Transfer Within the University—Application for transfer to another college, school, or division must be made to the appropriate admitting office on the campus to which transfer is desired and provided by the office concerned.

With the exception of the School of Government and Business Administration, which limits a student to 15 semester hours earned in nonmatriculated status, a maximum of 45 semester hours earned in the Division of Continuing Education may be applied toward a bachelor's degree in the other degree-granting colleges or schools of the University.

Students transferring within the University are advised to study carefully the requirements listed below under Graduation Requirements and to note, unless otherwise specified, in all undergraduate divisions, 30 semester hours, including at least 12 semester hours in the major field, must be completed while registered in the school or college from which the degree is sought. Upon transfer the student should consult the dean concerned and understand clearly the requirements that must be fulfilled.

CREDIT

Credit is given only after completion of registration in a course and satisfactory completion of the required work, or upon the assignment of advanced standing in accordance with the regulations of the college, school, or division concerned.

Auditing—A person who has been admitted to the University may be registered, with the permission of the instructor, as an auditor in a class (no academic credit). An auditor is not required to take active part or to pass examinations. A student who takes a course as an auditor may not repeat it later for credit. Tuition is charged at the prevailing rate.

POST-ADMISSION TRANSFER CREDIT

Students who plan to attend another institution and apply credit so earned toward graduation from this University must first secure the written approval of their dean. In no event will credit in excess of what might be earned in a similar period in this University be recognized.

TRANSCRIPTS OF RECORD

Official transcripts of student records are issued on written request of the student or former student who has paid all charges, including any student loan installments, due the University at the time of the request. A fee of \$3 is charged for each transcript. Partial transcripts are not issued.

CONTINUOUS ENROLLMENT

Once entered in a degree program, a student is expected to be continuously enrolled and actively engaged in fulfilling the requirements for the degree each semester of the academic year until such time as the degree is conferred. Should the student break continuous enrollment at the University and not request and be granted a leave of absence (see below) or be assigned by the dean to inactive status (see below), he or she must apply for readmission and, if granted, be subject to the requirements and regulations then in force.

LEAVE OF ABSENCE

Should a degree student find it necessary to interrupt active pursuit of the degree, he or she may petition the dean for a leave of absence for a specific period of time, generally limited to one calendar year. A degree student who discontinues active enrollment in degree studies without being granted a leave of absence, or a student granted a leave who does not return to active study at the close of the period of approved absence, must apply for readmission and be subject to the regulations and requirements then in force. The right to use of University facilities is suspended while the leave is in effect.

INACTIVE STATUS

Under the regulations established by each school and college, a student may be considered in continuous pursuit of the degree while not enrolled in courses at the University when engaged in the following: cooperative engineering work semester; study abroad program; attendance at another institution with prior approval to have work transferred back to the GW program; completion of outstanding work in courses in which a grade of Incomplete was received; or non-course instructional activities unique to the particular school or college.

Students must request to be enrolled in inactive status, in advance of the year or semester concerned, and be granted approval by their dean for the specific activity desired. This status is generally limited to one year; no fees are assessed students while in this status.

GRADUATION REQUIREMENTS

Degrees are conferred in February, May, and September.

To be recommended by the faculty for graduation a student must have met the admission requirements of the college or school in which registered; completed satisfactorily the scholarship, curriculum, residence, and other requirements for the degree for which registered; filed an application for graduation prior to the published deadline date; and be free from all indebtedness to the University. Enrollment is required for the semester or summer session at the close of which the degree is to be conferred.

Application for Graduation—An Application for Graduation form must be filed at the time of registration for the last semester or summer session of the senior or final year. Students completing degree requirements during the summer sessions will be awarded diplomas (no formal convocation) dated September 30, provided they have completed all degree requirements and have applied for graduation as a part of registration for the summer sessions.

Scholarship—The student must meet the scholarship requirements for the particular degree for which registered.

Curriculum—Minimum curriculum requirements for each degree are stated under the college or school offering work in preparation for the degree.

Residence—Unless otherwise specified, in all undergraduate divisions of the University, a minimum of 30 semester hours, including at least 12 hours in the major field, must be completed while registered in the school or college from which the degree is sought. This requirement applies to students transferring from within the University as well as to students transferring from other institutions. Unless special permission is granted by the dean of the college or school concerned to pursue work elsewhere, the work of the senior or final year must be completed in the college or school from which the degree is sought.

The graduate student must meet the residence requirements for the particular degree for which registered.

Thesis or Dissertation—A thesis or dissertation submitted in partial fulfillment of requirements for a degree must be presented in its final form to the dean of the college or school concerned no later than the date specified in the University Calendar.

Accepted theses and dissertations, with accompanying drawings, become the property of the University and are deposited in the University's Gelman Library where the duplicate copies are bound and made available for circulation. See the appropriate college or school in this *Bulletin* for regulations governing theses and dissertations.

HONORS

Bachelor's degrees with honors are awarded to students whose academic record give evidence of particular merit. The student's quality-point index determines the level of honors as follows: *cum laude*, 3.4–3.59; *magna cum laude*, 3.6–3.79; *summa cum laude*, 3.8–4.0.

The quality-point index is calculated by the Office of the Registrar, and the honors designation is entered on the transcript and diploma of those students who earn an honors designation. The quality-point index includes all courses

work completed at GW and is not rounded off. To be eligible for an honors designation, a student must complete at least 60 hours of course work at GW.

Special Honors

Special Honors may be awarded by the faculty to any member of the graduating class for outstanding achievement in the student's major field on recommendation of the major department. The student must fulfill all of the following requirements:

1. Candidacy for Special Honors must be approved by the faculty member representing the major department or field not later than the beginning of the senior year.
2. Such other conditions as may be set at the time the candidacy is approved must be met.
3. At least one-half of the courses required for the degree must have been completed at GW.
4. The specific requirement of the college or school in which the student is registered must be fulfilled as follows: (a) Columbian College of Arts and Sciences or the Elliott School of International Affairs—grades of A or B in 50 percent of the courses taken at GW; (b) the School of Education and Human Development or the School of Government and Business Administration—a quality-point index of at least 3.0 on all course work taken at GW.

Special honors awards may not necessarily appear on diplomas.

THE LIBRARY

All students registered in the University have the privilege of using the University's Gelman Library. Its stacks are open, and all students are welcome to browse. A card denoting approved enrollment for the current semester must be presented when books are borrowed for outside use.

The loan period for stack books is 21 days. Any book that circulates is subject to recall by the library if needed for reserve or other use. Reserve books must be used in the reserve reading room when the library is open, except that they may be withdrawn for overnight use beginning at 8:30 p.m. Transcripts of grades are withheld until a student's library record is clear, with all borrowed books returned and any fines paid.

All students using the University's Gelman Library are expected to be familiar with its detailed regulations, available at any of the library's service desks.

RIGHT TO DISMISS STUDENTS

The right is reserved by the University to dismiss or exclude any student from the University, or from any class or classes, whenever, in the interest of the student or the University, the University Administration deems it advisable.

RIGHT TO CHANGE RULES

The University and its college, schools, and divisions reserve the right to modify change requirements, rules, and fees. Such regulations shall go into force whenever the proper authorities may determine.

RIGHT TO MAKE CHANGES IN PROGRAMS

The right is reserved by the University to make changes in programs without notice whenever circumstances warrant such changes.

UNIVERSITY POLICY ON THE RELEASE OF STUDENT INFORMATION

The Family Educational Rights and Privacy Act of 1974 applies to institutional policies governing access to and release of student education records maintained by educational institutions that are recipients of federal funds. The University complies with this statute, which states, in part, that such institutions must

1. afford students access to education records directly related to them;
2. offer students an opportunity for a hearing to challenge such records that are inaccurate, misleading, or otherwise inappropriate;
3. receive students' written consent before releasing information from their education records to persons outside the University, except as provided by the Act and except for directory information as indicated below (information may be furnished to a student's parents without such written consent only upon confirmation of the student's financial dependency); and
4. comply with a judicial order or lawfully issued subpoena to release a student's record, notifying the student of this action.

The University will release the following directory information upon request: name, local address, and telephone number; name and address of next of kin; dates of attendance; school, college, or division of enrollment; field of study; credit hours earned; degrees earned; honors received; participation in organizations and activities chartered or otherwise established by the University (including intercollegiate athletics); and height, weight, and age of members of athletic teams. A student who does not wish such directory information released must file written notice to this effect in the Office of the Registrar at the beginning of each semester or session of enrollment.

Copies of the University's full policy statement on the release of student information may be obtained from the Office of the Registrar.

PROPERTY RESPONSIBILITY

The University is not responsible for the loss of personal property. A Lost and Found Office is maintained on campus in the Security Office.

UNIVERSITY POLICY ON DRUGS

The University cannot condone violations of law, including violation of the laws that proscribe possession, use, sale, or distribution of drugs. Members of the academic community should know that administrative action, which may include dismissal from the residence halls, revocation of other privileges, suspension or dismissal from the University, may be taken in order to protect the interests of the University and the rights of others.

ASSOCIATIONS AND SERVICES

CONSORTIUM OF UNIVERSITIES OF THE WASHINGTON METROPOLITAN AREA, INC.

Ten universities in the Washington area—American University, Catholic University of America, Gallaudet University, George Mason University, George Washington University, Georgetown University, Howard University, Marymount University, the University of the District of Columbia, and the University of Maryland—are associated in a Consortium through which they coordinate the use of their respective facilities; Mount Vernon College and Trinity College are associate members of the Consortium. Students in approved programs leading to degrees in any one of these institutions have the opportunity to select from the combined offerings the particular courses that best meet their needs. This privilege is subject to regulations of the school or division in which the student is enrolled.

Participation is limited to degree candidates. The following, however, are excluded: students in canon law, dentistry, medicine, nursing, and theology. Law students are also excluded from participation, except for candidates for the degree of Master of Laws at George Washington University and Georgetown University.

In special courses involving private instruction (such as music or art) or tutorial study, if a special fee is charged, this fee is not covered by the Consortium agreement and must be paid by the individual student to the institution administering the course.

Students are encouraged to study the program announcements of all participating institutions. See Registration for information concerning registration for Consortium courses.

Registration forms and instructions are available from the registrar of the institution in which the student is enrolled. Students register and pay tuition at their own institutions for all Consortium courses; course fees are payable to the institution in which the student is enrolled.

THE READING CENTER

Director F.E. Hesser

The Reading Center offers individual diagnostic and corrective services for all levels: primary, elementary, secondary, and adult. Special reading improvement classes are conducted for high school and college students as well as other adults. There is also an After-School Program designed for academically gifted children. Instruction is available on an individual, semi-individual, and small-group basis.

A complete diagnosis includes psychological tests; vision, hearing, dominance, and spelling tests; and various types of reading achievement and aptitude tests. Results are interpreted, and a written report is presented in conference with the parents or the individual.

The special reading improvement classes for high school students, college students, and other adults are offered throughout the year at stated intervals. Emphasis is placed on improvement of vocabulary, speed, comprehension, and study skills. Instruction in spelling is also provided as needed. All fees are payable in advance.

THE SPEECH AND HEARING CENTER

Coordinator W.P. Cupples

The George Washington University Speech and Hearing Center provides diagnosis and treatment of a wide range of speech, language, and hearing disorders. These include developmental impairments of articulation and language, stuttering, voice disorders, and speech and language impairments resulting from neurological damage. Services are available for persons wishing to modify regional dialect or foreign accent. Evaluation and aural rehabilitation are provided for hearing-impaired individuals. The Speech and Hearing Center operates in conjunction with the Department of Speech and Hearing.

THE WRITING CENTER

Director Kim Moreland

The Writing Center is a center for informal and personal writing instruction; services are provided free to all GWU students. Students at all levels of experience and expertise are encouraged to use the Center for help in identifying writing problems and learning how best to express ideas. Trained tutors (undergraduate peer tutors, graduate students, the Director, and other members of the faculty) work with students individually on areas of specific need or interest. Tutors can provide assistance in such areas as organizing a mass of information efficiently and clearly, using correct grammar and punctuation, getting started on a writing project, developing a thesis, providing evidence in support of an argument, and presenting the findings of an experiment or the solution to a research problem.

UNIVERSITY COMPUTER CENTER

Acting Director Joe Boswell

The University Computer Center is normally open 24 hours a day, seven days a week, during the academic semesters; the user area may not be open during the winter and summer breaks.

The Center provides computational facilities, consultation, and operational assistance as required. It operates two IBM 4381 computers (VM/VS1/Ch). Public terminals and dial-in lines are available for academic users. There is a range of compilers and application software packages.

In addition to the central facility, computer services and facilities are available in several of the schools; microcomputers are widely available as well. University's GW Data Network ties together the mainframes and many of the microcomputers, and the University computers are connected to the national computer networks BITNET and SURANET.

COMPUTER INFORMATION AND RESOURCE CENTER

Director Donald E. Rickert

The Computer Information and Resource Center/User Services (CIRC/US) is the primary source of information and consultation on the use of computers and computer networks at the University. In cooperation with the Gelman Library and GW Television, CIRC/US publishes a periodic newsletter on computer issues. CIRC/US gives seminars, and offers technical advice to faculty and students regarding access to and use of the IBM mainframe and microcomputers.

GW Data Network, and microcomputer selection and acquisition. CIRC/US administers and can make recommendations on various discount-purchase programs for microcomputer equipment.

Computer programming courses are offered by the School of Government and Business Administration, the Department of Statistics/Computer and Information Systems, and the School of Engineering and Applied Science. In addition, many other departments offer courses that utilize the computer as a research adjunct to course work.

Any University student may have access to the computer facilities for individual research, class projects, and thesis or dissertation study. Access is by request; the schedule of charges is available at CIRC/US in the Academic Center.

GW TELEVISION

Assistant Vice President for Television Ted J. Christensen

The main television resource of the University is GWTV, a state-of-the-art ITFS, multichannel broadcast facility. Goals of GWTV are to develop courses and programs in cooperation with academic departments for broadcast off campus; to develop videotapes for class use and for continuing professional education; to expand a program of national and international teleconferences; and to manage the acquisition and maintenance of television equipment and facilities in various instructional units.

Operating from studios located in the Academic Center, GWTV has the capability to receive from and transmit to any communications satellite. Video teleconference programs are delivered to a number of on-campus locations, such as studios, conference rooms, and auditoriums, where participants can interact by telephone link with the originating site.

OFFICE OF ALUMNI RELATIONS

Director of Alumni Services Wendy J. Luther

The Office of Alumni Relations, in conjunction with the General Alumni Association, makes available to alumni and their families a program of services and educational and cultural events. "The Inside Story," a supplement in the fall and winter issues of the GWTimes, contains a calendar of alumni activities for alumni in Washington, D.C., and around the nation.

Alumni are encouraged to inquire about available services and programs at the Office of Alumni Relations and to keep the Office informed of any changes in address or occupation.

GENERAL ALUMNI ASSOCIATION

President Edward N. Vest

The objectives of this organization are to unite the graduates who wish to associate themselves for charitable, educational, literary, and scientific purposes, and to promote the general welfare of the University.

Membership in the Association is conveyed automatically to anyone who has been graduated from any school or division of the University. Anyone who has earned 15 credit hours or the equivalent at the University, who has left the University in good standing, and whose class has graduated is eligible for membership; in the case of the Division of Continuing Education students, however, only the "15 credit hours earned" requirement and not the "graduation

of the class" requirement applies. Graduates of CCEW certificate programs also eligible.

A Governing Board, composed of members representing the constituent alumni organizations, directs the activities of the Association. The volunteer leadership of the Association works closely with the staff of the Office of Alumni Relations in carrying out Association affairs. The Association may be contacted through the Office of Alumni Relations.

ROTC

George Washington University students may enroll through the Consortium for the Army ROTC program offered at Georgetown University, the AFROTC program at the University of Maryland, or the Army ROTC or AFROTC at Howard University. Those interested should contact the ROTC enrollment officer at one of these universities. Limited credit for such courses (primarily advanced ROTC courses) may be assigned for electives to meet degree requirements at George Washington University; prior approval is required by the dean of the school in which the student is enrolled.

See Naval Science under Courses of Instruction for the NROTC program at George Washington University.



STUDENT LIFE

Vice President for Student and Academic Support Services Robert A. Chertok

The Office of the Vice President for Student and Academic Support Services establishes policy and procedures for those departments that affect student life, including the offices of Admissions, Student Financial Assistance, Security, Athletics and Recreation, and the Dean of Students (which includes Campus Life, Housing and Residence Life, the Student Health Service, the Counseling Center, the Career Services Center, International Services, Disabled Student Services, the Multicultural Student Services Center, including the Educational Opportunity Program, and Judicial Affairs).

OFFICE OF THE DEAN OF STUDENTS

Assistant Vice President and Dean of Students Gail Short Hanson
Assistant Dean of Students Cheryl Beil
Assistant Dean, Educational Services Linda Donnels

The Office of the Dean of Students provides counseling and information for students, administers the nonacademic student disciplinary system and student grievance procedures, and assists in nonacademic program development. Its members are well informed on University policies and the various student services provided on campus, enabling them to provide referrals and answers.

many questions concerning general student life. Personal letters of recommendation for students applying to graduate and professional schools can be obtained from this office. The Dean of Students is responsible for the services and programs indicated below; the office is located on the fourth floor of Rice Hall.

Housing and Residence Life

Director Ann Webster

Associate Directors David McElveen, Barbara McGraw

Assistant Directors Rebecca Griffin, Paul Barkett

Complete information concerning the University's residence halls is available from the Director of Housing and Residence Life, George Washington University, Washington, D.C. 20052.

Admission to the University does not include a room reservation. The student will receive, with the notification of acceptance, University residence hall information, an application for residence hall space or apartment accommodation, and a declaration of intent to attend the University. The application for residence hall space or apartment accommodation must be accompanied by a \$300 nonrefundable deposit. The housing deposit is credited toward the first semester's room or apartment charge.

Rooms and apartments are leased for the academic year, and lease payment must be made in early June for the fall semester, unless the student elects the deferred payment plan or the 10-month payment plan. Please check with Housing and Residence Life for the deferred payment plan and with Student Accounts for the 10-month payment plan.

Residence hall space and apartment accommodations are not generally available to graduate students.

Prices per person for the academic year 1990-91 are scheduled to range from \$3,410 to \$3,950 in the regular residence halls and from \$3,700 to \$4,260 in the apartment residence halls.

FOOD SERVICE

Resident freshmen and sophomores are required to choose one of the following food service plans: the any 14 meals per week plan, tentatively set at \$2,490 for the academic year, or the any 10 meals per week plan, tentatively set at \$2,340 for the academic year. Participation in the food service plans is optional for junior, senior, and graduate students. Food service payment does not cover University intersession or vacation periods. All meal cards admit bearer to the dining room in Thurston Hall and to the second-floor contract dining room in the Cloyd Heck Marvin Center. A small percentage of the meal card may also be used on a cash basis in the Marvin Center first-floor cafeteria, George's, and the Courtyard Cafe at Mitchell Hall.

Students who observe the Jewish dietary laws can write to make arrangements with the GW Housing and Residence Life Office regarding the B'nai B'rith Hillel Foundation Kosher Meal Plan.

Student Health Service

Director Isabel Kuperschmit, M.D.

Coordinator Janet Garber, N.P.

The Student Health Service is an outpatient clinic located in the Burns building, lower level.

The Health Service is staffed by physicians, nurse practitioners, and physical assistants who are capable of addressing most of students' medical problems. Visits may be arranged by appointment or, during certain hours, secured on a walk-in basis. Many routine lab tests may be performed in the Health Service at cost; allergy shots, immunizations, and various lab tests are done at little or no charge. Psychiatric evaluation, crisis intervention, and short-term therapy are available by appointment.

For serious emergencies occurring during hours when the Student Health Service is closed, students may go to the Emergency Room of the University Hospital for treatment. All fees are the responsibility of the student.

Students must be currently enrolled on campus in the University to receive treatment at the Student Health Service. Students enrolled in off-campus programs and the Continuing Engineering Education Program are not eligible. The bills incurred from all services rendered outside of the Student Health Service (for example, x-ray work, laboratory work, and office visits to private physicians) are the responsibility of the student.

HEALTH AND ACCIDENT INSURANCE

The University has arranged for and endorsed group health and accident insurance, on an elective basis, for all students. Interested students should contact the Student Health Service or Office of the Dean of Students.

Counseling Center

Director Diane M. DePalma

The Counseling Center fosters personal growth and development and helps students resolve personal, social, career, and study problems that can interfere with their educational goals. Services include (1) short-term individual counseling, art therapy, crisis intervention, and referral services for personal problems (e.g., academic pressures, relationship or family difficulties); (2) group counseling for personal problems; (3) educational/vocational counseling and testing; (4) workshops designed to address academic or personal development (e.g., learning strategies, study skills, communication skills, stress management); (5) consultation with faculty, staff, and student groups about their special needs in designing programs to improve the campus environment.

The Center administers the Miller Analogies Test, GW admissions tests, special assessments for business and industry. Career counseling and referral services are available to GW faculty, staff, alumni, and individuals from the greater Washington community.

Students may schedule a cost-free initial interview from 9 a.m. to 5 p.m. Monday through Thursday, and from 1 to 5 p.m. on Fridays. For individual services a modest fee per appointment is charged. An additional materials fee is charged for test batteries. Fee adjustments can be made if financial need is a factor. Disabled students are asked to call ahead so that arrangements can be made to adapt services or to meet at an accessible site.

Career and Cooperative Education Center

Executive Director Kathy Sims

Assistant Directors Marva Gumbs, Lucy Hoffman

The Career and Cooperative Education Center provides career planning and seeking assistance to students and alumni as well as a cooperative education program. Services include full-time and part-time job listings; career consultation.

workshops (e.g., organizing job searches, resume and letter writing, effective interviewing); a resource library of career field and employer literature; on-campus interviews for students within one year of graduation; a resume referral service; resume critiques; a call-in job listings service, Jobline; and a credentials service that supports employment and graduate/professional school applications.

International Services Office

Director E. Donald Driver
Associate Director David Fosnocht
Assistant Director Ann Morton

International students, scholars, faculty, and staff are provided assistance through the International Services Office. The staff offers immigration assistance and information on government requirements and regulations specific to the international community; orientation programs to help with adjustment to living and studying in the United States; and advising and counseling for a variety of personal problems, including cultural adjustment, living conditions, budgets, academic concerns, and financial aid.

Disabled Student Services

Assistant Dean, Educational Services Linda Donnels
Coordinator Christy Willis

The Disabled Student Services office works to assure that the special services necessary for disabled students to participate fully in their academic programs and the extracurricular life of the campus are provided for them through University or community resources.

Multicultural Student Services Center

Director Valerie L. Epps

The Multicultural Student Services Center provides academic, co-curricular, and personal support services for all GW minority students to enhance minority student life at GW. Through the Center, minority students receive orientation to the various University resources, and are made aware of the many cultural activities and programs that exist on campus and in the greater metropolitan area. The Center provides professional and peer counseling, course advising, tutorial services, and campus and community mentoring programs. The staff is available to address students' academic and personal concerns.

In addition, the Center enhances the quality of minority student life through the sponsoring of co-curricular activities, leadership training, and a newsletter. The Center houses a resource center with computers for student use, reference books and instructional materials, a test file, and an information center. The Multicultural Student Services Center oversees the Educational Opportunity Program and various preparatory and precollege programs. The Multicultural Student Services Center is located at 2127 G St., N.W., Room 101.

EDUCATIONAL OPPORTUNITY PROGRAM

Associate Director Johnnie E. Harris

The Educational Opportunity Program (EOP), a component of the Multicultural Student Services Center, provides selected District of Columbia students with financial aid, academic support services, and personal advising to assist them in

pursuing undergraduate work at George Washington University. The EOP staff coordinates a precollege program as well as educational and cultural activities to promote the success and enhance the experience of program participants.

The EOP staff administers the High School/College Internship Program (HISCIP), which enrolls highly motivated District of Columbia high school seniors. Participants enroll at GW as nondegree candidates, taking a maximum of 6 credit hours per semester in addition to their high school curriculum. Application for the HISCIP program is made through the student's high school guidance office. Counseling and advising is provided by the EOP staff. HISCIP students have access to all of the academic support services available to EOP participants.

OFFICE OF CAMPUS LIFE

Director LeNorman J. Strong

Associate Directors Johnnie Osborne, Liz Panyon

Assistant Directors Donald Cotter, Steven Loflin, Lorraine Weisser, Gary Yamauchi

The Office of Campus Life furthers the educational mission of the University by offering programs, services, and facilities that provide students with opportunities for personal, professional, social, and cultural development. The Office of Campus Life includes the Campus Activities Office, Cloyd Heck Marvin Center, and New Student Programs and Services. Staff members assist individual students, campus organizations, and the University community with event planning, program coordination, and participation in special projects, both on and off campus. The staff can also help in interpreting University policies and procedures that affect campus activities. The office is located on the second floor of the Marvin Center.

Additional information about the numerous services offered by the Office of Campus Life, and about the various student organizations and committees, can be obtained from the *Student Handbook*.

Campus Activities Office

The Campus Activities Office provides administrative support to the University Program Board and other groups planning major events. Other services include advisement of campus organizations (including fraternities and sororities), registration of student organizations, leadership training, and planning and coordination of major campus events.

PROGRAM BOARD

The Program Board, composed chiefly of elected and appointed students, has the primary responsibility of allocating resources for student programming on campus. In addition, the Program Board provides funding for activities presented by various campus organizations and encourages student participation in program planning through involvement in committees on the arts, concerts, festivals, films, parties, political affairs, and public relations. Further information can be obtained from the Program Board office in the Marvin Center.

STUDENT GOVERNMENT

The George Washington University Student Association is comprised of all full-time and part-time undergraduate and graduate students who are registered for academic credit on campus. A body of elected and appointed individuals

responsible for representing the interests of students at the University. The Student Association provides various services for students, such as academic evaluations, test and syllabus files, and the Student Advocate Service. Further information can be obtained from the Student Association office in the Marvin Center.

Student involvement in the governance of the University is also possible through participation in various administrative and Faculty Senate committees, advisory councils of the schools and colleges, selected committees of the Board of Trustees, and specialized bodies, such as the Residence Hall Association, the Joint Food Services Board, and the Marvin Center Governing Board. This involvement has helped develop policies and programs beneficial to students and to the University community as a whole.

STUDENT ORGANIZATIONS

Students are encouraged to become involved with existing student organizations or to initiate their own. There are approximately 200 registered organizations on campus, covering a broad spectrum of interests, including academic, professional, international, cultural, political, service, sports, hobbies, recreational, religious, and meditative groups as well as social fraternities and sororities. Academic honor societies include Phi Beta Kappa, Sigma Xi, and others related to specific academic disciplines.

The Cloyd Heck Marvin Center

The Marvin Center is the campus community center, serving as the "living room" for the George Washington University community. The Marvin Center offers programs, services, and facilities for students, faculty, staff, alumni, and university guests. The Center's wide range of facilities include five dining locations, lounges, recreational facilities, a theatre, study rooms, conference and meeting rooms, major function/event rooms, the Off-Campus Housing Resource Center, the Information Center, a newsstand, a TV lounge, offices for over 40 campus organizations, and a typing/microcomputer center. The Marvin Center provides facilities for programs conducted by the University Program Board, by the academic departments that include the performing arts, and by other University organizations.

The Marvin Center Governing Board, which oversees the Center's policies, is a representative body composed of students, faculty, staff, and alumni. The Board works closely with the Center's staff in the review and development of policies, guidelines, and procedures that direct the operation of the Center.

New Student Programs and Services

New Student Programs and Services is responsible for developing and coordinating orientation programs. Staff members advise the Student Orientation Staff and work with University departments and groups in planning orientation programs and services for undergraduate and graduate students.

RELIGIOUS LIFE

The University recognizes the contribution that religion makes to the life of its students and encourages them to participate in the religious organizations of their own choice. Several religious bodies sponsor various groups and form a link between the University and the religious community. The advisors of the reli-

religious organizations are available for counseling. Religious services and special observances are also provided for the University community as announced.

MAJOR PROGRAM EVENTS

Art Exhibits—The work of locally, nationally, and internationally known artists is shown in monthly exhibits in the Dimock Gallery in Lisner Auditorium and the Colonnade art gallery of the Marvin Center. Student art exhibits are presented each semester.

Concert Series—The Department of Music presents a series of concerts featuring faculty, guest, and student artists throughout each year. Other concerts are held regularly in the Marvin Center, Lisner Auditorium, and the Smith Center.

Dance—The GWU Dance Company presents major concerts, informal student performances, experimental events, television appearances, and lecture-demonstrations. Students may audition to become company members and have the opportunity to choreograph, perform, and gain experience in the technical aspects of dance productions.

Glee Club, Jazz Band, and Orchestra—The University Glee Club, Jazz Band, and Orchestra are available to students either as credit courses or as cocurricular activities. All of these organizations present major performances to the University community several times a year, including regular winter and spring concerts.

International Programs—The International Student Society presents an annual international dinner in cooperation with foreign embassies and international restaurants. Other programs include regular forums and speakers' international topics.

Program Board—The University Program Board, through its various committees and in cooperation with other campus groups, regularly sponsors film lectures, concerts, social activities, and special events.

Theatre—The University Theatre produces four or five major plays and musicals during the year on the proscenium/thrust stage in the Dorothy Betts Marvin Theatre. Additional works, including original and experimental plays, are produced in a more intimate studio theatre. Students can participate in all aspects of theatre and may receive credit toward their B.A. or M.F.A. degrees for some of their production work.

DEPARTMENT OF ATHLETICS AND RECREATION

Director Steve Bilsky

The Charles E. Smith Center for Physical Education and Athletics offers many facilities for student use, including courts for basketball, volleyball, and badminton; a jogging track; a swimming pool; wrestling, gymnastic, and weight room; handball and squash courts; and a sauna and lockers. Based in the Smith Center, the Department of Athletics and Recreation offers a broad program of intramural and recreational activities designed to accommodate various levels of skill, experience, and interest.

The University is a member of the National Collegiate Athletic Association and the Atlantic Ten Conference. Its women's and men's intercollegiate varsity teams compete against major universities throughout the Midwest and Eastern Seaboard in such sports as basketball, baseball, soccer, tennis, golf, wrestling, cross-country, swimming and diving, water polo, badminton, volleyball, and gymnastics.

SECONDARY FIELDS OF STUDY

A program of secondary fields of study has been established within the University to provide opportunities for formal interschool study. Students must be enrolled in a degree program and must be in good academic standing to be eligible to take a secondary field in another school. The secondary fields consist of 12 to 18 hours of prescribed courses, depending on the field, with scholarship requirements determined by the school offering the field. Upon satisfactory completion of all requirements, the title of the secondary field of study and the courses taken in support of the field are entered on the student's transcript. For further information, see the brochure *Secondary Fields of Study* available in the offices of the deans or from the Vice President for Academic Affairs.



COLUMBIAN COLLEGE OF ARTS AND SCIENCES

Dean R.W. Kenny
Associate Deans D. McAleavey, N.K. Khatcheressian (Acting)
Director of Academic Advising B.P. Selinsky

FACULTY 1989-90

Professors E. Abravanel, J. Aschheim, D.L. Atkins, I. Azar, R.P. Bain (Research), W.H. Becker, O. Bergmann, E. Berkowitz, B.L. Berman, B.L. Boulier, L.S. Bowling, A.S. Brooks, R.G. Brown, J.F. Burks, R.D. Caplan, E.A. Caress, A.J. Caron (Research), R. Caron (Research), W.J. Chambliss, J. Chaves, A.E. Claeysens, A.G. Coates, J.J. Cordes, T.F. Courtless, Jr., L.G. DePauw, R.P. Donaldson, R.M. Dunn, Jr., M.A. East, N. Filipescu, R.S. French, J.A. Frey, R.N. Ganz, Jr., J.L. Gastwirth, H.F. Gillette, I.I. Glick, R.S. Goldfarb, W.B. Griffith, S.E. Haber, O. Havrylyshyn, P.P. Hill, J.W. Hillis, A.J. Hildebeitel, H.C. Hinton, H.H. Hobbs, M.A. Holman, R.L. Humphrey, Jr., R.G. Jones, H.D. Junghenn, I. Katz, R.E. Kennedy, Jr., R.W. Kenny, H. Kenyon, Y. Kim, J.C. King, M. King, A.D. Kirsch, P.F. Klarén, R.M. Krulfeld, J.E. Kwoka, J.M. Lachin III, J.L. Lake, K.G. Lan, C.J. Lange, P. Langton, H.L. LeBlanc, D.R. Lehman, P.H.M. Lengermann, J.B. Levy, J.F. Lewis, R.K. Lewis, H.W. Lilliefors, C.A. Linden, R.C. Lindholm, C.W. Linebaugh, T.P.G. Liverman, J.M. Logsdon, J.C. Lowe, J.H. Maddox, D. McAleavey, C. McClintock, M.L. Meltzer, B.M. Mergen, J.C. Miller, C.C. Mondale, A. Montaser, J.A. Morgan, Jr., C.A. Moser, H.R. Nau, B. Nimer, T. Ozdogan, R.K. Packer, R. Parris, G. Paster, J. Pelzman, T.P. Perros, R.A. Peterson, J.A.A. Plotz, F. Prats, J.A. Quitslund, D.E. Ramaker, B. Reich, W.M. Reynolds, L.P. Ribuffo, C.E. Rice, P. Robbins, L.F. Robinson, L.A. Rothblat, D.A. Rowley, H.M. Sachar, P.G. Sáenz, B.M. Sapin, S.O. Schiff, R.H. Schlagel, W.E. Schmidt, L.G. Schwoerer, C. Shih, F.R. Siegel, D.E. Silber, N.D. Singpurwalla, A.H. Smith, R.T. Smythe, H. Solomon, C. Steiner, C.W. Sten, G.C. Stephens, R.W. Stephens, C.H. Sterling, C.T. Stewart, Jr., C. Tate, D.H. Teller, K. Thoenelt, R. Thornton, R.P. Trost, D.E. Vermeer, J.M. Vlach, R.D. Walk, R.H. Walker, Jr., D.D. Wallace, Jr., R.A. Wallace, H. Weingartner, D.G. White, M. Withers, J.F. Wright, Jr., H.E. Yeide, Jr., A.M. Yezer, J.E. Ziolkowski, A.J. Zuchelli

Associate Professors C.J. Allen, A. Altman, J.C. Anderson, A.D. Andrews, G.R. Bozzini, M.D. Bradley, L. Brandt, T.J. Brennan, M.D.M. Brink, W.J. Briscoe, K.M. Brown, J.R. Burns, G. Carter, R.P. Churchill, M.A.B. Land, R.L. Combs, C.C. Costigan, W.P. Cupples, C.J. Deering, C.F. Elliott, Feigenbaum, E.A. Fisher, N.C. Garner, H.I. Gates, Jr., R.J. Guenther, Gupta, R.A. Hadley, E.P. Harper, S. Hashtroudi, J.R. Henig, C.J. Herber, Hitchcock, R.W. Holmstrom, J.O. Horton, T.L. Hufford, L.B. Jacobson, Johnson, N.D. Johnson, W.R. Johnson, C.C. Joyner, S.A. Karp, N.K. Khatchikian, Y.K. Kim-Renaud, R.E. Knowlton, M.P. Lader, J.H. Lebovic, D.L. Lee, Lee, D.L. Lipscomb, R.W. Longstreth, G. Ludlow, H.M. Mahmoud, H. chant, J.H. Miller, S.B. Molina, T.K. Nayak, L.R. Offermann, Y. Olkhov, W.C. Parke, J.R. Peverley, P.J. Poppen, C.W. Puffenbarger, J.R. Regnell, Rutledge, R. Rycroft, S.E.F. Schlesselman (Research), O.A. Seavey, S.L. mons, S.C. Smith, M.J. Sodaro, J.L. Stephanic, E.A. Stone, M.F. Taragin, Thall, J.M. Thibault, J.E. Thiel, R.E. Thomas, I. Thompson, N.A. Tilkens, Tropea, S.A. Tuch, B. von Barghahn, A.G. Wade, H.S. Watson, R.C. Wil, S.L. Wolchik, W.T. Woodward, S.M. Wright, R.Y. Yin

Assistant Professors H.L. Agnew, A.A. Alani (Research), M.W. Alcorn, Jr., Baginski, M.B. Bandas, F.Z. Belgrave, D. Bjelajac, J.E. Bonin, N.J. Brown, Captain-Hidalgo, M.D. Clair, V. Coleman, P. Connerton, A.B. Covarrubias, Dhuga, D.P. Di Lella, J.K. Donaldson, Jr., M.V. Dow, D.A. Durham, E.W. E verria, P.N. Edmonson, R.G. Epstein, M.E. Evans, V. Fon, D.A. Grier, F. Gr, C.F. Gudenius, H. Habertzettl, V. Harizanov, D.M. Hart, K.J. Hartswick, Hockett, C. Hurley, G.P. Huvé, C.L. Iacobelli, M.L. Jasnoski, F.L. Jout, Keeler, S. Keller, M.R. Kirkland, J.C. Kuipers, S.G. Larson, M.W. Lewis, Loewy, C.F. Meloni, M.F. Miller, M.O. Moore, K. Moreland, D.W. Morris, Moses, F.S. Moskowitz, S.L. Murray, L.E. Osterman, P.M. Palmer, R.F. Phil, C.J. Pickar, J.L. Porter, W.A. Pucilowsky, J.A. Quiroga, S.A. Quitslund, Reid, R.M. Robin, E.A. Robinson, J.P. Rogers, C.A. Rohrbeck, A. Romines, Sabelli, M.A.P. Saunders, D. Scarboro, R. Simion, M. Soltan, C.B. Sp, R.P. Stoker, R.B. Stott, S.M. Suranovic, D.E. Thompson (Research), Thompson, M.A. Ticktin, R.P. Tollo, B. Toman, R.W. Tucker, D.H. Ullma, Valero, I.R. Vergara, A. Viterito, H.B. Wagner, T.G. Wallace, G.C.Y. Wan, Weitzer, E.F. Wells, S.L. Wiley, E.R. Williams, M.H. Ye, L.S. Youens

Instructors T. Kimura, E.M. Murray, N. Taghavi

Committees*

DEAN'S COUNCIL

1990: V. Fon, J.R. Peverley, J.L. Stephanic
 1991: C. Allen, I. Katz, F.C. Reid
 1992: T.L. Hufford, D.L. Lee, R.A. Peterson

CURRICULUM COMMITTEE

1990: H.F. Gillette, R.S. Goldfarb, H.W. Lilliefors
 1991: H. Merchant, J.A. Plotz, A. Yezer
 1992: I. Azar, C.J. Herber, J.B. Levy

* The Dean of Columbian College is an ex officio member of all committees; all listed committee members are elected by the Faculty of Columbian College.

FACULTY PERSONNEL COMMITTEE

- 1990: C. McClintock, F. Prats, A.H. Smith
1991: L.S. Bowling, J.F. Burks, J.H. Miller
1992: J.L. Gastwirth, G.K. Paster, L.S. Rothblat

COMMITTEE ON ADMISSION AND ADVANCED STANDING

- 1990: M.D. Brewer, N.C. Garner, G. Ludlow
1991: D.L. Atkins, I. Azar, C.E. Rice
1992: R.A. Hadley, C.C. Mondale, G.C. Stephens

COMMITTEE ON SCHOLARSHIP

- 1990: H.B. Feigenbaum, E.A. Stone, J.E. Ziolkowski
1991: J. Chaves, M. Gupta, R.E. Kennedy
1992: J.H. Maddox, H.C. Merchant, R.W. Stephens

INTRODUCTION

Since its founding in 1821, Columbian College, the college of liberal arts and sciences of George Washington University, has been the cornerstone of a dynamic campus community in the heart of the nation's capital. With fine facilities and a full-time faculty of about 300, the College offers its 3,500 students the advantages of a small liberal arts institution as well as opportunities for professional and pre-professional education in many fields and for internships and employment in a stimulating urban environment. The College's students come from all 50 states and from about 100 foreign countries.

The rich and diverse liberal arts and sciences curriculum is designed to strengthen the student's ability to communicate, to reason, and to understand the social and physical environment. This purpose is accomplished through the study of various disciplines—the humanities, the social sciences, and the mathematical and natural sciences. With this foundation, Columbian College graduates are well prepared for a wide range of jobs or for more specialized professional and graduate education. The College offers programs leading to the degrees of Bachelor of Arts, Bachelor of Science, and Bachelor of Music. Students may elect one of more than 50 departmental majors, or they may elect double majors, interdisciplinary majors, or individualized degree programs. Special curricular guidance is given to students planning to apply to a medical or law school.

ENTRANCE REQUIREMENTS

Good character and an academic background appropriate for the program of studies contemplated are required.

Requirements for admission to the freshman class are as follows:

1. An acceptable certificate of graduation from an accredited secondary school, showing at least 15 units,* which must include four years of English; at least two years of one foreign language; two years of science, preferably with laboratory instruction; two years of social studies, one of which must be American history; and one year of college-preparatory mathematics beyond introductory algebra. Typically, at least a B average or equivalent is required.

*A unit represents a year's study in a secondary school subject, including in the aggregate not less than 120 sixty-minute periods, or the equivalent, of prepared classroom work.

2. The principal's statement that the applicant is prepared to undertake college work.

3. Standardized test scores submitted on College Board Achievement English composition and mathematics and on either the Scholastic Aptitude or the American College Testing battery.

4. Admission to the Bachelor of Music curriculum requires, in addition above, a performance audition (a tape is acceptable) and/or music testing.

It is recommended that the College Board examinations be taken in December or January. Scores on tests taken in the junior year may be submitted. Arrangements for tests are the responsibility of the applicant and should be made through the College Board Admissions Testing Program, CN 6200, Princeton, NJ 08541-6200, not less than one month before the date of the tests. In applying for the test, the applicant should specify that the scores be sent to the Office of Admissions, George Washington University, Washington, D.C. 20052.

American College Testing battery scores are also accepted. The applicant should request that these scores be sent to the Office of Admissions directly to the American College Testing Program, Iowa City, Iowa. It is recommended that the applicant take the tests in October of the senior year.

The Committee on Admission and Advanced Standing will consider the adequacy of the qualifications of an applicant who, because of unusual circumstances, does not present all of the formal requirements stated here. The Committee may prescribe appropriate scholastic aptitude tests. Students admitted with deficiencies in secondary school units will be required to begin removing deficiencies within the first year, by appropriate courses or examinations.

ADMISSION WITH ADVANCED STANDING

Requirements for admission of students transferring from other regionally accredited colleges and universities and from other divisions of this University are as follows.

Applicants who have accumulated at least 30 semester hours (or the equivalent) of academic credit at another regionally accredited college or university may be admitted to Columbian College as transfer students with advanced standing. Those who have achieved a quality-point index of at least 2.50 on a 4.0 scale in previous college work will be given preference for admission. Applicants who have completed fewer than 30 semester hours of acceptable credit will meet the entrance requirements for freshmen.

Advanced standing may be awarded for properly certified courses for which the student received a grade of C or above, provided that such courses are comparable to the curriculum requirements for the degree sought in Columbian College. No more than 9 semester hours of professional (engineering, education, business) courses completed at another institution will be assigned toward a degree in Columbian College. In the case of course work completed at a two-year college, no more than 66 semester hours of credit may be applied as advanced standing toward a degree in Columbian College.

Although a grade of D in a course is not acceptable for transfer, the course may satisfy a curriculum requirement. Credits earned with a grade of D will, however, be assigned as advanced standing.

Columbian College reserves the right to refuse credit for transfer in whole or in part or to accept credit provisionally.

It is the responsibility of the student to have an official transcript from the institution formerly attended sent directly to the Office of Admissions, George Washington University, Washington, D.C. 20052.

Students wishing to transfer from another division of the University into a degree program in Columbian College must submit to the Office of Admissions a formal application for transfer and must be in good academic standing with a cumulative quality-point index of 2.0 or above at the time of transfer. A maximum of 45 semester hours earned as a nondegree student in the Division of Continuing Education may be applied toward a degree in Columbian College. All transfer students must satisfy the residence and course requirements for degrees awarded by Columbian College.

REGULATIONS

See Admissions; Registration; Fees and Financial Regulations; Regulations.

ADVISORY SYSTEM

Students have the responsibility for determining their schedules and meeting degree requirements. Because faculty and staff advisors can help students learn to make well-informed choices, students are required to meet with an advisor prior to registering each semester and are encouraged to keep in close touch with their advisors. Students who have not yet declared a major receive academic advising in the Columbian College Student Services office; students who have declared their majors receive advice from their departments or from their interdepartmental committees.

In addition to the academic advising provided by the faculty and the College's professional staff, the peer advising system allows students to consult with peer advisors who have been specially trained to help students make informed choices as they construct their schedules each semester. A directory of peer advisors is available from the Student Services office.

Personal counseling is available through the office of the Dean of Students, the Counseling Center, the Multicultural Student Services Center, the International Services office, and elsewhere.

Students having academic difficulty, especially freshmen and sophomores taking lower-level courses who receive mid-semester warnings from their professors, should immediately consult with their professor or advisor in order to develop a plan for overcoming their problem. The Writing Center in the English Department and the Math Lab in the Mathematics Department both offer walk-in and by-appointment assistance; peer tutors are available through the Dean of Students office; study skills workshops are provided by the Counseling Center.

SCHOLARSHIP REQUIREMENTS

Academic Work Load

To encourage academic performance of high quality, the College limits the student's work load.

A full-time student not on probation may take a course load of as much as 17 semester hours. The amount of work taken by a student on probation will be limited by the Committee on Scholarship.

A full-time student who, during the immediately preceding semester, has received no grades below B- and has earned grades of A or A- in three courses totaling at least 9 semester hours may take 18 or 19 hours.

A student who accepts employment after registration or at any time during a semester must immediately report that fact to the dean so that the academic program may be adjusted, if necessary. A student employed 20 or more hours per

week should not attempt more than 10 semester hours per semester or 4 semester hours per summer session.

Attendance

The student is held responsible for all the work of the course in which registered and all absences must be excused by the instructor in charge before provision made for the student to make up work missed.

Classification of Students

A student becomes a *sophomore* upon completion of 30 semester hours, a *junior* upon completion of 60 semester hours, and a *senior* upon completion of 90 semester hours.

An *unclassified* student is one who is not a candidate for a bachelor's degree (normally because the student already holds one) but who wishes for various academic reason to take a limited program for a limited time.

Leave of Absence and Continuous Enrollment

Students in Columbian College who wish to interrupt their studies must apply to the dean for either Continuous Enrollment or Leave of Absence (see Regulations, page 49). If approved, either form of inactive status assures the student that, after at least one semester, re-entrance to the College may take place under regulations prevailing at the time of last registration. A student may re-apply for a semester of either type of leave, but ordinarily such leave is only available for one calendar year. After two semesters of inactive status, the student is expected to resume active study toward a degree.

All study toward a degree program at any other college or university, in this country or abroad, undertaken by a continuing student must be approved by the dean in advance.

Academic Standing

A student who is not suspended or on probation is considered to be in good academic standing.

The following rules governing probation and suspension are applicable to students enrolled for a full-time program (12 semester hours or more) during the fall or spring semester. Students enrolled for less than 12 semester hours during the fall or spring semester and students enrolled during the summer sessions are subject to probation or suspension on the basis of their cumulative record, a "semester" being considered a time interval in which at least 12 semester hours have accrued.

Probation—A student whose cumulative quality-point index is less than 1.00 (but 1.00 or more) after attempting a minimum of 24 semester hours will be placed on probation. The course load of a student on probation shall be no more than 13 semester hours. Probation will be removed if, after a first or second semester on probation, the student's quality-point index is raised to 2.00 or more. A student still on probation after two semesters (or 24 semester hours attempted) ordinarily will be suspended but may be continued on probation by the Committee on Scholarship (see below).

Suspension—The following circumstances constitute grounds for suspension: (1) a cumulative quality-point index below 1.00 after attempting a minimum of 24 semester hours, and (2) failure to attain a cumulative quality-point index of 2.00 or more after two successive semesters (or 24 semester hours attempted).

probation. The Committee on Scholarship may continue a student on probation (in lieu of suspension) if satisfactory progress is demonstrated during the probationary period and/or sufficient evidence of academic promise, by way of a statement of appeal, is offered by the student.

The minimum period of academic suspension is one fall or one spring semester. Final dates for applying for readmission are the same as those governing undergraduate admission (see Admissions). A suspended student seeking readmission must submit evidence to the Committee on Scholarship of conduct during absence from the University that indicates that the student will profit from readmission. A student suspended twice for poor scholarship will not be readmitted.

Semester Warning—A student whose cumulative quality-point index is less than 2.00 after attempting a minimum of 12 semester hours will be issued a warning notice at the end of the semester by the Office of the Dean and shall be strongly advised to take corrective measures (e.g., limitation of course load to no more than 13 semester hours).

Mid-semester Warning—When, at the end of the eighth week of each semester, instructors file in the Office of the Dean the names of freshman and sophomore students who are doing unsatisfactory work, a notice of warning is sent to the student and a copy filed with the appropriate advisor. A warning constitutes notice to the student to consult the instructor and advisor at the earliest opportunity.

Adding and Dropping Courses

After registering, a student may add or drop courses only by means of procedures established by the Registrar. Failure to follow these procedures when dropping a course may result in a failing grade. The deadline for adding a course during the regular fall or spring semester is the end of the second week of classes.

The deadline for dropping a course without academic penalty is the end of the eighth week of classes in the fall and spring semesters. A course dropped during the first three weeks of classes will not appear on a student's transcript. A course dropped between the fourth and eighth week will be assigned the grade of W (authorized withdrawal).

The deadline for complete withdrawal from a student's entire program of courses without academic penalty is the end of the ninth week of classes.

After the deadlines, program changes are not possible unless the student presents a petition to the Dean's Council and receives permission.

Incompletes

Conditions under which the grade of I (Incomplete) may be assigned are described under Regulations.

Changing an Incomplete—Incomplete work must be completed no later than the last day of the examination period for the fall or spring semester immediately following the semester or summer session in which the grade of I is assigned. When work for the course is completed, the grade earned will be indicated in the form of I/ followed by the grade. The indication of I/ cannot be removed from the transcript. A grade of I that is not changed within this period automatically becomes an I/F. In cases of well-documented extenuating circumstances, an instructor and a student may jointly petition the dean or the appropriate committee for additional time in which to complete the work of the course. Such petitions should be submitted within the same period. The grade of I cannot be

changed by reregistering for the course here or by taking its equivalent where.

Dean's List

The name of any student who takes 15 semester hours or more of graded work in any one semester and attains a semester quality-point index of 3.6 or more with no grades below B- will be placed on the Dean's List for that semester. A course taken on a Pass/No Pass basis beyond the 15-hour minimum of graded courses does not affect the student's eligibility for the Dean's List, nor are semester hours of such a course computed in the above figures. A grade of Pass, however, disqualifies the student from the Dean's List.

THE BACHELOR'S DEGREES

Columbian College offers programs leading to the degrees of Bachelor of Arts, Bachelor of Science, and Bachelor of Music.

In cooperation with the School of Medicine and Health Sciences, a seven-semester curriculum leading to the combined degrees of Bachelor of Arts and Doctor of Medicine is offered.

For teacher certification for Columbian College students, see the School of Education and Human Development.

The Standard 120-Semester-Hour Program

One hundred twenty hours of course work must be passed and a quality-point index of at least 2.0 achieved in courses graded on a 4.0 scale. General curriculum, major, and other requirements described below must be met.

Each student must declare a major, usually in the sophomore year. A student may change the major with the consent of the dean and of the departmental committee concerned; the student must meet the requirements for the new major in effect at the time the change is approved. At least 60 hours of course work must be taken outside the major-field department or major program. (This does not apply to the Bachelor of Arts curriculum in dance nor to the 129-hour Bachelor of Music curriculum.)

See page 47 for an explanation of how the quality-point index is computed and page 77 for scholarship requirements applicable specifically to departmental majors.

All students, including those transferring from other institutions or from another school or division of this University, with major requirements wholly or substantially met, must satisfy the residence requirement of Columbian College stated below.

The 90-Semester-Hour Program

The 90-semester-hour degree program is designed for the exceptionally talented student. This program, which leads to the regular Columbian College degree, makes it possible to graduate in three normal academic years with a total of 90 semester hours of credit instead of the standard 120. Students in this program must complete all of the requirements for the three-year degree in the semester in which the 90th semester hour is achieved.

The requirements for this program are (1) 90 semester hours of credit earned in college courses (that is, the 90-hour requirement may not be reduced by credit earned through examinations); (2) completion of the chosen major-field program.

and general curricular requirements; (3) grades of A or A- in at least 45 semester hours of course work and no grades below C-; (4) at least 60 semester hours of credit earned in 100-level courses; and (5) recommendation of the major department or program.

To be eligible for this program, the student must show evidence of exceptional academic ability by college record, performance in college courses, and other appropriate information.

An interested student should make application directly to the major-field departmental chairman or program director as soon as possible, preferably by the end of the first year of study. The student's academic record to that point will, of course, provide a useful criterion of eligibility.

A transfer student may qualify for graduation under the 90-hour program if he or she completes at least 60 semester hours of the approved 90-hour program in Columbian College, earns grades of A or A- in no less than 45 semester hours of such course work at this University, and has no grades below C-.

A student who fails to maintain the required academic performance while studying toward the 90-hour degree program simply continues for the standard 120-hour degree.

Residence

For the Standard 120-Semester-Hour Program—Students must complete 45 of their final 60 hours toward their degrees in the College. (Students approved for study abroad, however, must complete 45 of their final 75 hours in the College.) Except in special circumstances, and then only with the approval of the Dean, at least 9 of the final 15 hours must be completed in residence.

Courses applicable to the degree taken while registered in any division of The George Washington University in the semester immediately prior to admission to degree candidacy in Columbian College are counted as courses in residence.

For the 90-Semester-Hour Program—The last 60 semester hours, including at least 12 hours in the major field, must be completed in residence in Columbian College.

Summer Work—Summer work in residence may be counted toward all Columbian College degrees.

Study Abroad Programs

Study abroad programs for the academic year are currently available in England, France, Germany, India, Japan, China, and Peru. Students who wish to study in countries not mentioned here should check with the office of the dean. Credits earned with acceptable grades are transferable toward the appropriate degree at George Washington University, provided there is no duplication of work done previously. All programs of study abroad must be approved on the required forms by the appropriate faculty and administrative personnel before departure. Information may be obtained from the Study Abroad Office, Stuart Hall, Room 102.

Study abroad is available at varying locations during the summer. Information on summer programs abroad is available in the GWU Summer Sessions Announcement and through the Division of Continuing Education.

Combined Degrees of Bachelor of Arts and Doctor of Medicine

A candidate for the combined degrees of Bachelor of Arts and Doctor of Medicine must (1) complete the entrance requirements for the Doctor of Medicine degree in the George Washington University School of Medicine and Health Sciences; (2)

complete the general Columbian College course requirements; (3) earn 90 semester hours in the liberal arts, including a minimum of 30 in second-group courses in Columbian College; (4) obtain the approval of the Dean of Columbian College at the time of entering the School of Medicine and Health Sciences; (5) obtain a recommendation of the Dean for Academic Affairs of the Medical Center at the completion of all prescribed courses in the first year of the Doctor of Medicine program, at which time the degree of Bachelor of Arts will be conferred (professional credit courses taken at another institution do not count toward the combined degrees); (6) maintain throughout the entire course the scholarship level required for graduation.

Second Bachelor's Degree

Columbian College graduates who wish to receive a second bachelor's degree must satisfy the general College requirements and the requirements of their new major and degree and must complete 30 hours in residence in Columbian College. Students with undergraduate degrees from other institutions or from other divisions of the University, if admitted to the College, must meet the same set of requirements.

PLACEMENT, WAIVER, AND CREDIT EXAMINATIONS

Preliminary Placement Examinations

Many departments in Columbian College, including English, mathematics, and all foreign languages, require students to take placement tests to determine level of proficiency or eligibility for specified courses. The student is placed in the appropriate course on the basis of these tests. There is no charge to the student for placement tests, and no credit (advanced standing) is awarded for courses bypassed or waived as a result of these tests.

English—Students whose scores on either the Test of Standard Written English or on the English Composition Achievement Test suggest that they will benefit from more intensive training in compositional skills may be assigned to English 9 or 10. Students whose scores indicate superior proficiency may be tested in vocabulary, spelling, grammar, standard usage, and writing before placement in either Engl 9 or 10. Students whose scores indicate superior competence will be allowed to waive the Engl 10 requirement.

English as a Foreign Language—see page 24.

Foreign Languages—A student who has not been granted advanced standing and who wishes to continue in college the language begun in high school must take a placement examination in one of the following: Chinese, French, German, Greek, Hebrew, Italian, Japanese, Korean, Latin, Portuguese, Russian, or Spanish. Upon completion of the examination, assignment is made to the appropriate course.

Mathematics—New students who wish to register in Math 30, 31, or 41 are required, prior to registration, to take a placement examination in algebra and trigonometry; those wishing to register in Math 51 are required, prior to registration, to take a placement examination in algebra.

Earning Credit by Examination

Assuming there is no duplication of course work earned, a maximum of 12 semester hours of credit may be assigned for any combination of the following:

College Board Advanced Placement Tests—See Admissions. Credit may be granted for college-level courses taken in an approved secondary school if substantiated by satisfactory performance on the Advanced Placement Tests.

College Board College-Level Examination Program (CLEP)—See Admissions. Prior to matriculation, credit may be assigned for CLEP General Examinations passed at the 50th percentile or above. Credit may be assigned for any CLEP Subject Examinations passed at the level recommended in the College Board model policy. The General Examination in English composition and a few Subject Examinations are unacceptable for credit. After matriculation, credit for CLEP Subject Examinations will not be assigned without special authorization by the Columbian College department governing the subject involved.

Special Departmental Examinations—A student may request any department of Columbian College to offer a special examination covering the subject matter of any specific course. (If an appropriate CLEP Subject Examination is available, the department may choose to employ it.) The student must offer evidence of sufficient background to have a reasonable command of the subject matter. Departments reserve the right to deny such requests. Credit by special departmental examination is not permitted for the first two years of college-level courses in a native language other than English. A student who has previously taken examinations to waive course requirements may not subsequently take examinations for credit in the same courses. Assigning credit (or waiving a requirement) by special departmental examinations will depend on the department's evaluation of the examination paper. These examinations will normally be of at least three hours' duration. A fee of \$50 for each course examination is charged for preparation, administration, and grading of the examination.

Waiving Introductory Courses by Examination

Several departments in Columbian College, including English, history, and sociology, offer periodic waiver examinations for introductory courses. Such examinations may be attempted at the option of the student; a fee of \$20 is charged. Specific departments should be consulted for further details. *Passing a waiver examination does not entitle a student to any semester hours of credit.*

GENERAL CURRICULUM REQUIREMENTS

All candidates for the degree of Bachelor of Arts or Bachelor of Science are admitted to a general arts and sciences curriculum until they declare a major field. Students should plan to satisfy most of their general curriculum requirements before they commit themselves to a specific major; most students select a major near the end of their sophomore year. General curriculum requirements are established by the College faculty as a whole and administered through its elected committees. Other curriculum requirements are administered by the major-field departments or programs. (Bachelor of Music candidates are admitted directly into the departmental curriculum.)

Students are obliged to demonstrate, either by course work or through examination, that they have attained an acceptable level of cultural literacy and intellectual competence and that they have acquired familiarity with the breadth and diversity of liberal learning.

Students must satisfy these requirements in eight distinct areas and should begin to do so in their first semester, because these fundamental competences and areas of knowledge often form a basis for future course work. No course may be taken to fulfill requirements in more than one of the eight categories, even though some courses may be listed in more than one category. Students may satisfy all or part of a specific requirement either through course work or by examination.

The eight categories of general curriculum requirements are listed below along with specifically approved courses. Additional courses beyond those listed in each category may be authorized from time to time by the Curriculum Committee. Please consult the Office of the Dean, Student Services, for a supplemental list of appropriate courses prior to registration each semester. Unless otherwise specified, the indicated paired sequences of courses must be selected.

Literacy—6 hours: Engl 9 or 10, and 11 or 13. Unless waived, the first semester of English composition must be taken in the freshman year. The second semester (Engl 11 or 13) must be taken no later than the second semester of the sophomore year.

Quantitative and/or Logical Reasoning—6 hours chosen from one of the following combinations: Phil 45 and 121; Stat 51 or 53 or 91, and 105 or 129; Stat 12 or 129-30; Math 9 and 10, 12 and 13, 30 and 31, 30 and 41, or 51-52; Phil and Stat 51 or 53 or 91.

Conceptual Foundations and Development of Natural Science—9 hours chosen from the courses listed below, distributed so that 3 or 6 hours come from Group A and 3 or 6 hours come from Group B (the 6-hour group must be a paired sequence): Group A: BiSc 3-4 or 11-12; Geol 1-2; Geol 5 and either 2 or 3; Group B: Chem 3-4 or 11-12; Phys 1-2 with 5-6; Phys 9-10; Phys 21-22 with 5-6.

Social and Behavioral Sciences—6 hours chosen from one of the following groups: two courses chosen from Anth 2, 3, and 4; Anth 2 and 150; Econ 11 and 12; Geog 1 and 2; PSc 1 and 2; PSc 3-4; Psyc 1 and 8; Soc 1 and 2.

Creative and Performing Arts—3 hours chosen from the following: Art 21, 22, 41; Engl 81; Mus 3, 4, 8 or applied music courses in voice, a single instrument, or jazz performance (Mus 11-50, 57-60, 153); Phil 162; TrDa 14, 45, 46, or 47.

Literature—6 hours chosen from one of the following combinations: Chin 64; Chin 181-82; Clas 107 and 108; Engl 51-52; Engl 61-62; Engl 71-72; Fren 54 and 54; Ger 51-52; Ger 103-4; Ger 112 and 114; Japn 111-12; Rel 9-10; Slav 92; Span 53 and 54, 55 and 56. (Additionally, students may satisfy this requirement by completing 6 hours of course work at the 100-level in a single foreign literary tradition taught in the foreign language.)

Western Society and Civilization—6 hours chosen from one of the following combinations: AmCv 71-72; Art 31-32; Clas 71-72; Hist 39-40; Hist 71 and 71; Honr 71-72; Hmn 1-2; Phil 51-52; Rel 1-2.

Foreign Language or Culture—either option A or option B as follows.

A. Foreign Language—A student must demonstrate competence beyond the elementary level in a language other than English taught at GW. A student offering for admission four acceptable high school units of a single foreign language (that is, four years of study of that language) has satisfied this requirement. A student who wishes to continue the same language studied in high school must take the language placement test.

In order to satisfy this requirement, the student must demonstrate competence at the level of the following courses, by either course work or examination (courses in the Romance languages must be completed with a grade of C or better): Chin 4 or 6; Clas 3 or 13 or 24; Fren 3; Ger 4 or 6; Ital 3; Japn 4; Kor 4; PSc Slav 4 or 6; Span 3.

The student should be aware that in many instances foreign languages are required for the major or recommended as preparation for advanced work. The student should consult the advisor so that foreign language may be included, if appropriate, in the student's program.

B. Foreign Culture—6 hours chosen from one of the seven categories listed below. Courses listed singly may be combined with other single courses within the same category. (1) *East Asia*—IAff 91; Chin 163–64; Hist 196; Japn 111–12; Rel 160. (2) *Middle East*—Anth 177; Geog 154; Hist 193; Hist 194; Rel 161. (3) *Latin America*—Anth 172; Geog 161; Hist 161; Hist 162; Hist 163; Hist 164; IAff 90; PSc 183. (4) *Africa*—Anth 178; Hist 116; PSc 181. (5) *Russia/Soviet Union*—Hist 145; Hist 146; Slav 71; Slav 91–92; Slav 161–62. (6) *South Asia*—Rel 157; Rel 158; Rel 159. (7) *Western Europe*—Ger 141; Hist 131–32; Hist 136; Hist 141 and 142; PSc 130.

THE MAJOR

In order to declare a major, all students must secure the advisor's signature on a proper form (obtainable in the Office of the Dean, Columbian College Student Services) and return the form to the Office of Columbian College. No student is considered to have a major until this process is completed. Thereafter, the student receives academic guidance from a faculty advisor in the major-field department.

In most cases, filing of the approved declaration form assures the student of admission to the major declared; however, if space, equipment, or other requirements compel a department or major program to limit the number of students in that major, admission to the major may be on a selective or space-available basis.

A change in degree candidacy within Columbian College (e.g., from Bachelor of Arts to Bachelor of Science) requires the permission of the Dean. The degree requirements effective at the time the change is approved must be met.

Major Fields

All fields listed below may lead to the Bachelor of Arts degree; a Bachelor of Science degree may be elected in those fields indicated by an asterisk.

American Civilization	Geography
Anthropology	*Geology
Applied Mathematics	Germanic Languages and Literatures
Art History	History
Art History/Fine Arts	Journalism
Biology	Judaic Studies
Botany	*Mathematics
Chemistry	Music
Chinese Language and Literature	Philosophy
Classical Archaeology and Anthropology	*Physics
Classical Archaeology and Classics	Political Communication
Classical Humanities	Political Science
Computer and Information Systems	Program in the Liberal Arts
Criminal Justice	Psychology
Dance	Radio–Television
Early Modern European Studies	Religion
East Asian Languages and Literatures	Russian Language and Literature
Economics	Sociology
English	Spanish-American Literature
Environmental Studies	Spanish Language and Literature
Fine Arts	Speech Communication
French Language and Literature	Speech and Hearing Science
	*Statistics
	Theatre
	*Zoology

Field-of-Study and Departmental Majors

There are two types of undergraduate majors: the Field-of-Study major and Departmental major. Seven majors—Classical Archaeology and Anthropology, Classical Archaeology and Classics, Early Modern European Studies, Environmental Studies, Program in the Liberal Arts, Judaic Studies, and Political Communication—although interdepartmental in nature, are governed by the regulations of the Departmental major.

Refer to the department concerned under Courses of Instruction to determine whether a major is Departmental or Field-of-Study.

FIELD-OF-STUDY MAJORS

Each Field-of-Study major covers a carefully worked out field of coordinated study and is under the supervision of the appropriate department and the Columbian College Committee on Curriculum.

The Field-of-Study major requires no specific program of courses, although a student is required to meet the overall general requirements for the degree. Ability to pass the Major Examination is assumed to be a convincing demonstration that the student possesses the breadth, depth, and quality of knowledge of the major usually defined in terms of semester hours, courses, and grades. Information on each field is obtainable from the department. Immediately upon declaring a major, students should consult the appropriate department so that they may be assigned an advisor.

The Field-of-Study major places special emphasis on the intellectual development of the individual student. Programs in the same major may vary, depending upon the individual student's background, previous study, and aptitudes. The student is expected to consult the advisor frequently, and the special seminars offered in some fields give the student further opportunity for individual advice and direction in pursuing a program especially adapted to individual needs and abilities. A close student-advisor relationship is essential for the student's success under the Field-of-Study major plan.

Proseminar in the Major—A proseminar is offered in most fields to help the student acquire a coordinated knowledge of the chosen field through reading, study, and laboratory exercises. It is a presentation of the content and methods of the major field as a whole through the organization and coordination of knowledge obtained in the various formal courses in the major subject and material not usually included in such courses. This course is not required by all departments, but, if it is elected, strict attendance is essential. Six semester hours, but no qualitative grade, may be assigned. When registered in this course the student has the privilege of occasionally visiting, subject to the approval of the instructor, any other appropriate course offered in the College. (Regular attendance in a course, either for credit or as an auditor, requires registration and payment of tuition.) Proseminars are open only to the student who has been accepted as a candidate under that specific major.

The Major Examination—The Major Examination will normally be taken at the close of the senior year; a student on a limited schedule may take it no earlier than one calendar year before graduation. A student who fails to pass a Major Examination may, at the discretion of the Committee on Curriculum, be re-examined at a later regular major-examination period. The Committee on Curriculum exercises general supervision of the preparation, reading, and grading of Major Examinations. Major Examinations are held each semester on dates fixed by the department or departments concerned.

DEPARTMENTAL MAJORS

Departmental majors, unlike Field-of-Study majors, are defined in terms of credit hours, required courses, and the attainment of grades no lower than C- in the minimum required second-group courses taken in the major field. If a student receives a grade of D in a second-group course required in the major, the major department or program may permit the course to satisfy a curricular requirement even though it would not normally count toward the minimum number of hours required for the major. However, the department or program may instead require the student to repeat the course until a satisfactory grade (C- or better) is earned. (The department chair or program director must authorize such repetition in a memo to the Office of the Dean, Student Services, before the student may register a second time.) Once the student has completed the course with a satisfactory grade, credit hours earned the first time the course was taken will count toward the minimum number of hours required in the major. Credit earned for the repetition will not count toward the degree. The minimum specific requirements for Departmental majors are listed below the staff of instruction of the department concerned. The chairman of the department, or designated departmental advisor, should be consulted at registration concerning the student's program of courses; and the entire program, including electives, must be approved by the department. The student is also expected to consult the chairman or advisor in all matters affecting the program of studies, such as changes, substitutions, or withdrawals, and especially concerning the student's progress in a course. A close student-advisor relationship is desirable.

Double Majors

With the prior approval of the departments concerned, a student who completes the requirements of two major fields in Columbian College (for example, mathematics and physics, or English and French, or history and economics) may graduate with a double major. Such a student should consult with advisors in the two departments concerned and officially declare both majors on the appropriate form available in the dean's office. A major field in Columbian College cannot be combined with a major field offered by another degree-granting unit of the University. A student may pursue two majors at the same time, even though one is toward a B.A. and the other is toward a B.S.

Interdisciplinary Programs

Regular Interdisciplinary Programs—Programs include American Civilization, Classical Archaeology and Anthropology, Classical Archaeology and Classics, Early Modern European Studies, Environmental Studies, Judaic Studies, and Political Communication.

Special Interdisciplinary Programs—A student who finds no existing major or program suited to individual educational goals may develop a special major program, in consultation with appropriate departmental advisors. Final approval of such a program rests with the Committee on Curriculum. Only programs with valid and clearly defined academic goals will be approved, and each shall be designated by a title suggested by the student to the Committee on Curriculum for approval. At least 45 semester hours of credit of the approved program must be completed in Columbian College. Because of their broad scope, such interdisciplinary majors may not be combined with a double major.

A student in an interdisciplinary program will be expected, during the second semester of the senior year, to take a comprehensive examination (either oral or

written) in the interdisciplinary field, or to undertake a senior comprehensive thesis, at the discretion of the student's interdepartmental committee.

Special Interdisciplinary Courses—Under the supervision of the Committee on Curriculum, new courses combining the methods and insights of several disciplines will be offered each semester. Interested students should consult the current *Schedule of Classes*, where such courses are numbered in the 700s. A student wishing to use any of these courses to satisfy the general curriculum requirements should consult the sponsoring department.

Program in the Liberal Arts—Directed by the Curriculum Committee of the Columbian College of Arts and Sciences, this program is designed to provide general education in the liberal arts, with or without another major, as a student chooses. It offers opportunity for achieving a substantial acquaintance with each of the three divisions of knowledge through a selection of courses that cultivate a broad perspective in time and in national and/or cultural traditions. The committee appointed to advise students in the program consists of one representative each from the humanities, the social sciences, and the natural and mathematical sciences. For curriculum requirements, see Program in the Liberal Arts, under Courses of Instruction.

MINORS AND SECONDARY FIELDS

Minors

Students who wish to familiarize themselves with a field outside their major may graduate with a minor in addition to the major. Not all Columbian College departments offer undergraduate minors; the requirements prescribed by the department that do are listed under the department involved. A student interested in a minor should consult faculty advisors in the department concerned and declare both major and minor programs on the appropriate form available in the dean's office.

At least one-half of the course work required for a minor must be done in residence. Grades of C- or better must be earned in second-group courses, including such courses transferred as advanced standing from another institution. Courses passed with a grade below C- may be used to fulfill a minor's curricular requirement but may not be counted toward the total number of credit hours required for the minor.

When taken by a student enrolled at the University in a school other than the Columbian College, such minors are designated secondary fields. The same curricular and scholarship requirements apply to secondary fields as to minors. Minors are available in the following fields:

American Civilization	Dance
Applied Ethics	Dance Education
Archaeology	Economics
Art History	English
Art History/Fine Arts	Fine Arts
Biological Anthropology	French Language and Literature
Biology	General Anthropology
Botany	Geography
Chemistry	Geology
Chinese	German
Classical Humanities	History
Computer and Information Systems	Japanese
Creative Writing	Journalism
Cross-Cultural Communication	Judaic Studies

Linguistics
 Mathematics
 Music
 Philosophy
 Physics
 Political Science
 Psychology
 Religion
 Russian Language and Literature

Sociocultural Anthropology
 Sociology
 Spanish Language and Literature
 Speech Communication
 Speech and Hearing
 Statistics
 Theater
 Women's Studies
 Zoology

Secondary Fields

Just as students enrolled at the University but outside the College may pursue College minors as secondary fields, such study is permitted College students in other schools of the University. Secondary fields are available in the School of Education and Human Development in early childhood education, exercise and sport, human services, secondary education (preparation for certification), special education, and tourism studies; in the School of Engineering and Applied Science in computer science, electrical engineering, engineering analysis, operations research, and engineering administration; in the School of Government and Business Administration, in business administration; and in the Elliott School of International Affairs, in international affairs. Interested students should consult with their academic advisors.

Columbian College students are limited in the number of hours they may take in courses outside the College (so-called "professional credit" courses). Refer to the paragraph below.

THE COLUMBIAN SCHOLARS PROGRAM

The University is inaugurating an undergraduate honors program in the fall 1990 semester. Under the supervision of the Vice President for Academic Affairs, the program involves three curricular segments: a University Symposium for the entire University community, honors courses for freshmen and sophomores, and a series of various honors opportunities for juniors and seniors.

Students must apply for admission to the Columbian Scholars Program. Generally, an entering freshman who is a candidate for the program will have high SAT scores or be at or near the top of his or her high school class. Candidates must describe their intellectual interests and academic goals in an essay and arrange for at least two letters of recommendation. Applications from promising students of unusual talent who do not meet the standard honors entrance requirements will be seriously considered. Students who complete a first year (24–36 credit hours) of college study either at GW or elsewhere, and who are in the top 10% of their class or have similar appropriate qualifications, may apply for entrance to the program as sophomores. To remain in the program and to graduate with recognition from the program, students must meet specific quality-point index requirements.

More information about the Columbian Scholars Program is available from the Director of the University Honors Program.

OTHER ACADEMIC REGULATIONS

Courses Outside Columbian College

Courses in schools of the University other than Columbian College may be taken to fulfill curriculum requirements, with approval of the major department,

subject to Columbian College rules governing allowable hours of professional credit.

Except for majors in applied mathematics and students in Naval Reserve Officers Training Corps programs, no more than 9 semester hours of courses offered by degree-granting divisions of the University other than Columbian College may count toward bachelor's degrees in Columbian College. (No credit allowed toward the degree for exercise and sport activities courses.) Students who have extraordinary reasons for exceeding the 9-hour limit must receive prior approval from the dean. In the case of those pursuing a secondary field, there is an 18-hour limit, and prior approval of the dean is not required.

No more than 45 semester hours of courses completed by a student while on nondegree status in the Division of Continuing Education may be applied toward a degree in Columbian College.

Naval Science—For information on naval science courses and the Naval Reserve Officers Training Corps, see Naval Science, under Courses of Instruction.

Service-Learning Program

A maximum of 15 semester hours in Service-Learning Program courses may be credited toward bachelor's degrees in Columbian College.

Earning an Additional Semester Hour of Credit

Normally, no deviation is permitted from the number of semester hours of credit given in parentheses after the title of each course. In exceptional circumstances, however, and with the prior approval in writing of the instructor and the dean, a student may register for and earn an additional semester hour of credit in certain appropriate second-group (upper-division) courses within the College by doing a significant amount of extra work as assigned and supervised by the instructor.

Pass/No Pass Option

A junior or senior student in Columbian College who is in good standing and with the approval of the advisor and the dean, take one course a semester on the pass/no pass basis and receive a grade of P, Pass, or NP, No Pass. No student will be allowed to take more than four pass/no pass courses under this regulation. The student may, however, also receive grades of P/NP in the proseminar for field-of-study majors and other courses normally using such grades. A student must sign up for the pass/no pass option at registration. Under no circumstances may a student change from pass/no pass status to graded status, or vice versa, after the end of the drop period or the eighth week of class. Courses required for the College's general curriculum requirements or in the student's major or minor field (including those courses required for the major that are offered by other departments) may not be taken on the pass/no pass basis. A transfer student may not choose this option until the second semester of enrollment in this University.

Tutorial Study

A junior or senior of demonstrated capacity, with a special interest in the subject matter of a regularly listed course, may be permitted to take tutorial study in residence under the personal direction of the instructor, in accordance with the rules of the appropriate department and with the approval of the dean. Credit under this plan is limited to the specific semester hours of credit designated for each course in the list of courses of instruction. It assumes frequent and regular conferences between the student and instructor.

PREMEDICAL CURRICULUM

A premedical student who intends to work toward a bachelor's degree fulfills the general requirements of Columbian College stated above and may follow the major-field curricula of any Columbian College department. Each premedical program must be approved by the premedical advisor. For admission to most medical schools, the student must have a minimum of 90 semester hours applicable toward a degree in an approved college of arts and sciences; the 90 hours must include

Biology—8 semester hours, including laboratory. This may be either in general biology or zoology but may not include separately credited courses in botany.

Chemistry—8 semester hours of general inorganic chemistry (which may include qualitative analysis), including laboratory, and 6–8 semester hours of organic chemistry, including laboratory

Physics—8 semester hours, including laboratory

English—6 semester hours. This may be the usual introductory English composition course or its equivalent.

Many medical schools have additional entrance requirements, among which are courses in biochemistry, embryology, histology, genetics, and mathematics. Even when such courses are not actually required, they are strongly recommended. With the exception of these specific requirements, applicants are urged to follow their personal interests in developing their premedical courses of study. A well-balanced program, rather than a specific field, is the criterion by which an applicant is judged. It is not advisable to take courses that appear to cover subject matter in the medical program. Although well-qualified candidates are eligible for admission after completing the minimum 90-semester-hour requirement, the majority of applicants are found to be better prepared for the study of medicine after four years of college work.

PREPARATION FOR LAW SCHOOL

A broad liberal education is the best undergraduate preparation for law school. Columbian College, therefore, does not prescribe a prelegal curriculum. However, through its Office of Student Services, the Columbian College provides students with advice about academic preparation for law school.



GRADUATE SCHOOL OF ARTS AND SCIENCES

Dean H. Solomon

Associate Dean E.A. Caress

Assistant Deans A.D. Andrews, D.A. Rowley, C.E. Rice

FACULTY 1989–90

University Professors P.J. Caws, M.F. Cunliffe, A. Etzioni, S.H. Nasr

Professors F.P. Abramson, E. Abravanel, L.F. Affronti, E.N. Albert, J.W. Albright, F.D. Allan, Jr., J. Aschheim, D.L. Atkins, I. Azar, J.M. Bailey, K.L. Becker, W.H. Becker, O. Bergmann, E. Berkowitz, B.L. Berman, J.J. Bernstein, B.L. Boulier, L.S. Bowling, A.S. Brooks, R.G. Brown, J.F. Burks, R.D. Caplan, E.A. Caress, M.M. Cassidy, W. Chambliss, A.G. Coates, V.H. Cohn, J.J. Cordes, T.F. Court-

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Dean's Council

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HISTORY AND ORGANIZATION

The Graduate School of Arts and Sciences is responsible for advanced study and research leading to Master's degrees in the arts and sciences and the degree of Doctor of Philosophy. Graduate programs at George Washington University were first formally organized under the Graduate School in 1905, following several decades of gradual growth in a number of departments. In 1930 the Graduate School was discontinued. Columbian College, the University's liberal arts college, then assumed responsibility for the Master of Arts and Master of Science degrees, and a newly created Graduate Council administered all Doctor of Philosophy programs. Professional schools took responsibility for advanced degrees in the professional fields.

In 1967 the Graduate Council and the Graduate Division of Columbian College were consolidated into a new Graduate School of Arts and Sciences. All graduate programs in the arts and sciences leading to the degrees of Master of Arts, Master of Fine Arts, Master of Forensic Sciences, Master of Music, Master of Science, Master of Science in Forensic Science, and Doctor of Philosophy are under the Graduate School. In addition, a Master of Philosophy degree is awarded by the school, upon recommendation of the appropriate department, to students who have successfully completed the first unit for the Doctor of Philosophy degree and have been promoted to Unit II.

The School is under the direction of the Graduate Faculty of Arts and Sciences. It is the responsibility of the Faculty to set the requirements for admission to the school, to provide courses and programs of study and research for its students, to establish academic standards for its degrees, to recommend to the Board of Trustees the awarding of degrees, to lay down regulations as needed for the operation of the School, and generally to supervise its activities.

The administration of the School is vested in the dean, who is chairman of the Dean's Council, which is responsible to the Faculty of the School for all policy matters.

ADMISSION REQUIREMENTS

Application forms for admission to graduate study are obtained from the office of the dean of the Graduate School of Arts and Sciences. When completed, these application forms must be submitted to this office, together with college transcripts, letters of reference, and other information as required by the department program. All application materials become the property of the University. Admission is dependent on departmental recommendation and approval by the dean.

Applicants must have academic backgrounds of excellence, usually with honors, or equivalent, in the fields in which they intend to study for advanced degrees. Normally, a B average (or equivalent) from an accredited college is required. With evidence of special promise, such as high Graduate Record Examination scores, an applicant whose academic record falls short of a B average may be accepted as a probationary student. The minimum does not assure automatic acceptance. The departments may, and often do, set higher admission standards. Moreover, the number of spaces available for new graduate students limits the number that can be accepted. Students who apply in the senior year must have completed their baccalaureate work before registration in the Graduate School and must present evidence of such completion.

Applicants to Ph.D. programs are required to submit scores on the GRE general test. Some master's programs also require the GRE general test (see the Departmental Requirements section of the application package). In addition, some master's programs require scores on a GRE subject test from all applicants (see the Departmental Requirements section of the application package). The applicant must have the Educational Testing Service send the required score report directly to the Graduate School of Arts and Sciences.

International applicants from countries in which English is the native language—All applicants to Ph.D. programs are required to submit scores on the Graduate Record Examination (GRE) general test. Some master's degree programs also require the GRE general test (see Departmental Requirements). In addition, some programs require scores on a GRE subject test from both Ph.D. and master's degree applicants.

Applicants from countries in which English is not the native language
a. Applicants are required to submit scores from the Test of English as a Foreign Language (TOEFL). The Test of Written English (TWE) is also recommended. The recommended minimum TOEFL score for admission to a graduate degree is 550.

b. Applicants for graduate teaching assistantships are required to submit scores on the TOEFL and the Test of Spoken English (TSE). To be considered for an assistantship, the applicant must have minimum scores of 750 on the TOEFL (55 in listening comprehension) and 250 on the TSE.

c. Applicants admitted as degree candidates will be required to take the Test of English as a Foreign Language (EFL) Placement Test at The George Washington University before registering. (Those who score 600 or more on the TOEFL or a score 5 out of 6 on the Test of Written English (TWE) are exempted.) EFL placement work may be required, depending on the applicant's performance on the placement test.

d. Applicants are encouraged to submit GRE scores whenever possible in support of their application.

Application for Admission—Applicants who are requesting fellowship support must submit completed applications by the dates indicated on the Graduate School's application information. Completed applications for graduate admission without fellowship support must be received by July 1 for the fall semester, November 1 for the spring semester, and by April 15 for the summer session, unless otherwise noted on the Graduate School's application information. International students must submit the completed application by June 1 for the fall semester and by October 15 for the spring semester unless otherwise noted on the application information.

Readmission—A student who wishes to resume a graduate program that has been interrupted must file an application form to be considered for readmission. Readmission is not guaranteed, and the application is subject to review by the Graduate School.

department concerned and the dean. The student may be required to take qualifying examinations on the course work completed. Application forms are available in the Graduate School Office.

REGULATIONS

See Admissions; Registration; Fees and Financial Regulations; Regulations.

In addition, the Graduate School publishes a Student Handbook each academic year which contains updated information on the School's policies, regulations, and other matters of concern to enrolled or admitted students. It is the responsibility of the student to be aware of the information contained in this Bulletin and the Handbook.

Grades

Grades for graduate work are A, Excellent; B, Good; C, Minimum Pass; CR, Credit; F, Fail; I, Incomplete; IP, Progress; W, Authorized Withdrawal, Z, Unauthorized Withdrawal.

The grade of I indicates that a satisfactory explanation has been given to the instructor for the student's failure to complete the required work for a course. The incomplete must be made up before the lapse of one calendar year. An incomplete for regular course work that is not changed within one calendar year remains permanently as a grade of I on the student's record. The grade of I cannot be removed by reregistering for the course here or by taking its equivalent elsewhere.

The grade of IP is given for all thesis and dissertation research courses until the thesis or dissertation is completed. Upon the satisfactory completion of the thesis or dissertation, the grade IP is changed to CR automatically. The grade of CR is given for Advanced Reading and Research courses.

Scholarship Requirements

Graduate students are required to maintain a minimum cumulative grade average of B (3.00) in all course work taken following admission to the Graduate School. Individual departments may require a higher average. The Department of English requires a 3.25 average. Only graduate course work taken at the university that forms part of the student's program of study may be included in the cumulative grade average.

In the case of a student who receives a grade of F for a course in the program of studies, the Graduate School will require a written statement from the department justifying the student's continuance in the Graduate School and outlining the program to be followed. Continuation is contingent upon the dean's approval. When a grade of F is received for a course in the program of studies, the grade is included in the student's grade point average whether or not the course is repeated.

A student may repeat a course in which a grade of C or above was received only when permitted to do so by the department concerned, unless the course description states that the course may be repeated for credit. A written statement to this effect must be submitted for approval to the dean's office by the appropriate departmental advisor. It is then filed with the Registrar. If a course is repeated, the first grade received remains on the student's record and is included in the student's grade point average.

A graduate student may take an advanced undergraduate course (courses numbered 101-200) for graduate credit only upon the approval of the dean and department at the time of registration. Such approval is granted only with the

provision that the student complete additional work in order to receive graduate credit.

Program of Studies

The program of studies is a formal statement of the requirements to be met in completing a specific degree program as well as the dates by which each requirement must be completed. The program of studies form is obtained from the Graduate School at the time of the first registration. It must be completed in consultation with the departmental advisor and submitted for approval to the Graduate School by the indicated date. A master's candidate's program of studies is due during the first semester of study, and a Ph.D. candidate's program of studies is due during the second semester of study. A program of studies may be revised, when necessary, by obtaining the approval of the departmental advisor and the dean. The revision must be filed in the Graduate School office. A completed course cannot be dropped from the program of studies unless the inclusion was due to an error in advising or an administrative error. Such a change in the program requires the approval of the dean.

Probationary Students—It is especially important for those admitted as probationary students to consult with their departmental advisor as early as possible regarding completion of additional requirements specified in the letter of admission. The exact conditions for admission of probationary students must be satisfied.

Academic Work Load—Full-time students register for 9 to 12 semester hours each semester; part-time students must register for 6 semester hours each semester. Students who work more than 20 hours per week must be part-time students. These requirements do not apply to students who have fewer than 9 semester hours (full time) or 6 semester hours (part time) remaining to complete their programs. No more than 15 semester hours may be taken during any one semester. Students who are employed more than 20 hours per week are expected to apply for part-time academic programs, and they will not be permitted to register for more than 6 credit hours in any semester.

Continuous Enrollment

All students must be continuously enrolled while working toward a degree, except during the summer sessions. Students who have completed all coursework, thesis, and dissertation registration requirements and are within the program of studies deadline must register for continuous enrollment each semester during the registration period. If continuous enrollment is not maintained, the student is dropped from the degree program unless a leave of absence is granted by the Graduate School.

Leave of Absence

A student who, for personal reasons, is temporarily unable to continue the program of studies may request leave of absence for a specific period of time not to exceed one calendar year during the total period of degree candidacy. When the period of leave has expired, it is the student's responsibility to register for the next semester. If a student fails to register, degree candidacy is terminated.

Withdrawal

Graduate students who intend to withdraw from the Graduate School should inform the School in writing. The last day for complete withdrawal without academic penalty is at the end of the eighth week of classes.

Graduation Requirements

All students must file an Application for Graduation by the date indicated in the University Calendar for the semester or summer session in which they intend to graduate. Students must be registered in the Graduate School during the semester they plan to graduate. Degree candidates may graduate in May, February, or September. Students who have completed the requirements for a degree but have not yet been awarded the degree will be issued a letter to this effect upon request.

DEGREES

Listed below are the degree programs of the Graduate School of Arts and Sciences and the specific degrees offered, by field. The programs are directed by the departments concerned. Degree programs that bridge two or more departments are directed by committees composed of members of the departments concerned. For further information write to the dean or the chairman of the appropriate department.

Students with special academic goals may pursue individualized programs of study toward the Master of Arts or Master of Science, subject to approval by the Committee on Individual Programs and the dean. Courses must be drawn from a minimum of three fields, with a maximum of 18 hours from any one field. A majority of courses must be taken within the Graduate School of Arts and Sciences. The comprehensive examination is a final essay in which the integration of the program of study is demonstrated. The School also offers Master of Arts and Master of Forensic Sciences degree programs in specific academic areas at off-campus locations.

Graduate Fields

The graduate course work offered in support of the degree programs in the following list is shown by department in this *Bulletin*.

Humanities	Degrees Offered	
American Civilization	M.A.	Ph.D.
American Literature	M.A.	Ph.D.
Art	M.F.A.	
Ceramics		
Design		
Painting		
Photography		
Printmaking		
Sculpture		
Visual Communication		
Art History	M.A.	Ph.D.
English Literature	M.A.	Ph.D.
Museum Studies	M.A.	
Music	M.A.	
Music (Performance)	M.A.	
Religion	M.Mus.	
Theatre	M.A.	
Women's Studies	M.F.A.	
	M.A.	
Social Sciences		
Administrative Sciences	M.A.	
Anthropology	M.A.	
Criminal Justice	M.A.	

Economics	M.A.	Ph.D.
Geography	M.A.	
History	M.A.	Ph.D.
Legislative Affairs	M.A.	
Political Science	M.A.	Ph.D.
Public Policy		Ph.D.
Public Policy	M.A.	
Environmental and Resource Policy		
Gerontology		
Philosophy and Social Policy		
Women's Studies		
Sociology	M.A.	Ph.D.
Telecommunication	M.A.	

Physical and Mathematical Sciences

Applied Mathematics	M.A., M.S.	
Applied Statistics	M.S.	
Chemical Toxicology	M.S.	
Chemistry	M.S.	Ph.D.
Environmental Science	M.S.	
Forensic Sciences	M.F.S., M.S.F.S.	
Geobiology	M.S.	Ph.D.
Geochemistry	M.S.	Ph.D.
Geology	M.S.	Ph.D.
Mathematical Statistics	M.A.	
Mathematics	M.A.	Ph.D.
Physics	M.A.	Ph.D.
Statistical Computing	M.S.	
Statistics		Ph.D.

Biomedical and Related Sciences

Anatomy		Ph.D.
Art Therapy	M.A.	
Biochemistry	M.S.	Ph.D.
Biological Sciences	M.S.	Ph.D.
Biology		
Botany		
Zoology		
Clinical Microbiology	M.S.	
Genetics	M.S.	Ph.D.
Microbiology	M.S.	Ph.D.
Pathology		Ph.D.
Pharmacology	M.S.	Ph.D.
Psychology	M.A.	Ph.D.
Radiological Sciences		Ph.D.
Speech-Language Pathology and Audiology	M.A.	

Joint Master of Science-Doctor of Medicine Program

Students interested in the joint Master of Science and Doctor of Medicine program must meet the requirements for admission to the Graduate School of Arts and Sciences and to the Doctor of Medicine degree program of the School of Medicine and Health Sciences.

The Master of Science program consists of a minimum of 30 semester hours credit. A maximum of 12 semester hours of credit for graduate-level courses completed as a part of the Doctor of Medicine degree curriculum (and not already applied toward the bachelor's degree) will be allowed in fulfillment of

requirements of the Master of Science degree. The remaining 18 semester hours of work, which in most programs includes a thesis, must be work in the basic medical sciences normally required for a Master of Science degree in the Graduate School of Arts and Sciences.

Joint Master's—Juris Doctor Program

Students interested in working concurrently toward the Juris Doctor degree in the National Law Center and a master's degree in the Graduate School of Arts and Sciences must meet the requirements for admission to both schools and all requirements in each degree program. It is possible for a student to complete work for both degree programs within four years.

Joint Doctor of Medicine—Doctor of Philosophy Program

A joint program is available to qualified students who seek both the Doctor of Medicine and Doctor of Philosophy degrees. The requirements that must be fulfilled for both degrees are identical to those currently and separately established in the School of Medicine and Health Sciences and the Graduate School of Arts and Sciences.

A student working toward these degrees may apply a maximum of 24 semester hours of approved course work in the School of Medicine and Health Sciences toward the minimum of 48 hours of course work required to qualify for the General or Cumulative Examination for doctoral candidacy. This course work is normally taken during the semesters that alternate with the medical program and in the years following the award of the M.D. degree. The student's research for the dissertation may begin concurrently with the final 24 semester hours of graduate course work leading to the General or Cumulative Examination. The estimated time for the completion of this dual program is six years.

In order to enter the joint program, a prospective student must first apply for and gain admission to both the Graduate School of Arts and Sciences and the School of Medicine and Health Sciences separately through established procedures. Upon admission to both schools, the student may then apply for affiliation with the joint program. Work toward the Doctor of Philosophy degree is performed under the jurisdiction of a departmental doctoral committee.

REQUIREMENTS FOR THE DEGREES

The Master's Programs

Unless otherwise specified, the requirements listed below are applicable to candidates for the degrees of Master of Arts, Master of Fine Arts, Master of Forensic Sciences, Master of Music, Master of Science, and Master of Science in Forensic Science.

1. **General Requirements**—For a master's degree program including a thesis, the satisfactory completion of a minimum of 30 semester hours of approved graduate work, including 6 semester hours of thesis research, is required. For a master's degree program that does not include a thesis, the number of semester hours of approved graduate course work is determined by the department and normally consists of from 30 to 36 semester hours. The program without the thesis is not an individual student option and is not available in every department. Departments can and often do set requirements above the minimum required by the Graduate School.

Work taken to make up deficiencies is never counted as part of the requirements leading to a master's degree. Upon approval, up to one-half of the required

graduate work may be taken in courses offered by the other affiliated institutions of the Consortium of Universities of the Washington Metropolitan Area, Inc., or by another degree-granting division of this University. If credit is transferred from another institution (see Transfer of Credit, below), the number of semester hours which may be taken at an affiliated Consortium institution is reduced by the number of hours accepted as transfer credit.

All master's degree candidates must complete degree requirements by the calendar date specified in the program of studies, which in no case will exceed four years. Extensions beyond the specified time period may be granted in exceptional circumstances, but the student will be required to register and pay for 6 credit hours of Reading and Research for audit each semester.

2. *Transfer of Credit*—A maximum of one-quarter of the semester hours of graduate course work required for a degree may be approved for transfer to the Graduate School from the Division of Continuing Education, another degree-granting division of this University, or another accredited college or university. For a transfer of credit to be approved, all of the following conditions must be met: the course work must have been taken prior to admission to the Graduate School; it must be approved as part of the student's program of studies; it must not have been applied to the completion of requirements for another degree; if it is post-baccalaureate graduate-level course work, it must have been taken within the past two years, and the student must have received a grade of B or better in each course for which a transfer of credit is requested. This action must be requested in writing and approved by the departmental advisor and the departmental transcript of the course work must be on file before the request can be considered.

3. *Special Program Requirements*—Master's degree candidates in some programs must demonstrate a reading knowledge of an appropriate foreign language. In other programs, students must demonstrate competence in quantitative methods, normally by passing prescribed courses in Statistics/Computers and Information Systems. Other programs have special requirements in other subjects. Courses taken at the undergraduate level to fulfill these requirements may not be counted in the number of graduate credit hours required for the programs. For further information on these and other regulations, consult the Student Handbook and the departments and program faculty concerned.

4. *The Thesis*—The main purposes of a master's thesis are to demonstrate the student's ability to make independent use of information and training and to furnish objective evidence of constructive powers in a chosen field. The student registers for six semester hours of thesis research and must complete the thesis no later than four calendar years after the initial registration. Registration for thesis research entitles the student to the advice and direction of the member of the faculty under whom the thesis is to be written. The thesis subject must be approved by the faculty member who will be directing the thesis. A thesis approval form must be submitted to the Graduate School upon registration for thesis research. The thesis—in its final form, with one copy and a certificate of approval signed by the thesis director and by at least one departmental reader—must be presented to the dean no later than the date announced in the University Calendar. All theses must meet the form, style, and other requirements set forth in a pamphlet, *Information Concerning Master's Theses and Doctoral Dissertations*, available in the Graduate School office.

5. *Master's Comprehensive Examination*—Most master's degree candidates must pass a Master's Comprehensive Examination in the major subject. Both examinations are held on dates fixed by the departments, so that results can be filed with the Graduate School office no later than the day before the faculty meeting.

approve the list of graduates. The nature and form of the examination is the responsibility of the department or program.

A student who fails to pass the Master's Comprehensive Examination may, with the approval of the department and the dean, repeat the examination at the next scheduled examination date. If the student fails a second time, no further opportunity to take the examination is permitted.

The Doctor of Philosophy Program

The minimum requirements for the doctoral program are as follows:

1. *General Requirements*—The program leading to the degree of Doctor of Philosophy requires the satisfactory completion of a minimum of 72 semester hours of approved graduate work for entering students whose highest earned degree is a baccalaureate. A minimum of 48 of these hours must be taken in preparation for the General Examination. Entering students whose highest earned degree is a master's degree are required to register for a minimum of 48 semester hours of approved graduate work, no fewer than 24 of which must be taken in preparation for the General Examination. While completing the dissertation portion of the program, the student must register for 12 to 24 semester hours of dissertation research, depending on the number of hours completed prior to the General Examination. The exact number of semester hours required for any part of the total program is assigned by each department and may exceed the minimum required by the Graduate School.

Doctoral degree candidates have an overall eight-year time limit for completion of all degree requirements. Doctoral students in the first unit of their programs shall meet the calendar deadline for completing this unit as specified in the program of studies. Completion of the first unit includes satisfactory completion of course work, special program requirements, and the General Examination. Doctoral students in the second unit of their programs, i.e., dissertation research, shall have an approved topic on file in the Graduate School office by the date specified in the program of studies, which in no case will exceed two years from the completion date of the General Examination. All remaining doctoral degree requirements shall be completed by the date specified in the program of studies, which in no case will exceed five years from the completion date of the General Examination. If any of the deadlines specified above are not met, assuming academic approval for an extension, which may be granted in exceptional circumstances, the student must register and pay for 6 credit hours of Reading and Research for audit each semester. These hours will not be counted toward completion of the degree.

2. *Transfer of Credit*—Entering students who hold a master's degree may request transfer of up to 24 semester hours of credit toward a doctoral degree for acceptable post-baccalaureate graduate work taken at the master's degree level at George Washington University or another accredited college or university. For those who do not hold the master's degree, a maximum of 24 semester hours of credit may be transferred, provided the conditions listed under The Master's programs (Item 2) above are met.

3. *Special Program Requirements*—Certain doctoral programs require a reading knowledge of one or two appropriate foreign languages, or high proficiency in the language. Some require a reading knowledge of one language in addition to competence in quantitative or other subject matter; some require competence in other subject matters without a language requirement. Competence in quantitative methods is normally demonstrated by passing certain prescribed courses in

Statistics/Computer and Information Systems. Courses taken at the undergraduate level to fulfill special program requirements may not be counted in the number of graduate credit hours required for the student's doctoral program except that up to 6 hours of course work at the 100 level may be so counted, with the approval of the department and the dean, so long as the number of hours of dissertation credit in the student's program is 12 or more. For further information on these and other regulations, consult the Student Handbook and the department and program faculty concerned.

4. *The General Examination*—Each student is required to complete the General Examination no later than the semester following the completion of course requirements. The General Examination is composed of a written examination five to six hours in length in each of the areas of study comprising the student's total program; the time permitted between each examination is determined by the administering department. Some departments permit one or two areas of study to be "written off"; that is, a special, shorter examination is given after a year of course work in the area. A cumulative examination system is in effect in the field of chemistry; students in this field should consult the department for information.

A student who fails to pass any part of the General Examination may, in exceptional circumstances, and with the approval of the department and the dean, repeat the examination at the next scheduled examination date. If a student fails a second time, no further opportunity to take the examination is permitted. The student's degree candidacy will be terminated.

Satisfactory performance on the General Examination is required for admission to the second unit of the Doctor of Philosophy degree program, consisting of the dissertation and final examination. Admittance to the second unit is permitted only if the student's General Examination committee finds that the student's performance on the examination and in course work gives a good indication of success in the second unit. Passing of the examination at the minimum level does not necessarily give this indication.

5. *The Degree of Master of Philosophy*—Upon departmental recommendation and approval of the dean, the degree of Master of Philosophy may be awarded to students who have successfully completed all requirements for the Doctor of Philosophy degree up to and including the General Examination and have been approved for the second unit. Not all departments recommend students for the degree.

6. *The Dissertation and Final Examination*—A dissertation is required of each doctoral candidate as evidence of ability to perform scholarly research and interpret its results. The candidate normally enrolls for Dissertation Research upon completion of Unit I; however, the candidate may register for up to six semester hours of Dissertation Research during Unit I. If the dissertation is not completed within five years from the date the General Examination is completed, the student will be required to request an extension to continue. If the extension is approved by the department and the dean, the student will be required to register for 6 semester hours of Reading and Research for audit and to retake the General Examination.

When the dissertation has been approved by the director, members of the Dissertation Research Committee, and the dean, the candidate takes the Final Examination, an oral examination that is open to the public. A committee of examiners (composed of Graduate School faculty and, when appropriate, outside scholars) conducts the examination. A sufficient number of copies of the dissertation must be provided by the candidate for the members of the Examination

tion Committee. If the candidate passes, he or she is recommended by the Graduate School for the degree of Doctor of Philosophy.

No later than the date specified in the University Calendar, the candidate must submit to the dean the original and one copy of the dissertation and an abstract for inclusion in the Announcement of the Final Examination and for reproduction by University Microfilms, Inc.

Detailed information regarding regulations for the form and reproduction of the dissertation is available in the Graduate School office. The successful candidate for the doctorate is required, before receiving the degree, to pay a fee that is applied toward the expense of printing the Announcement of the Final Examination and the basic service rendered by University Microfilms, Inc.

FELLOWSHIPS AND FINANCIAL AID

Most departments offer graduate teaching assistantships and University fellowships, and research assistantships are available in some departments. Students should check with their department concerning the availability of assistantships and fellowships. Graduate teaching assistants and University Fellows are appointed by the dean of the Graduate School, based on department recommendations. Other kinds of sponsored and University awards are also available. Awards are based on academic excellence, and only full-time degree candidates in the Graduate School are eligible to be considered. Appointments are made on a year-year basis and are not automatically renewable.

Students applying for admission who also wish to apply for a fellowship should submit the fellowship application and a completed application for admission by February 15. Students currently enrolled in the Graduate School should submit the fellowship application by February 15 and should check with their departments concerning additional application requirements.

International students applying for teaching assistantships should refer to Financial Aid, International Students, for regulations governing the appointment of international graduate teaching assistants.

Forms are available at the office of the Graduate School of Arts and Sciences and are included in application for admission packets. Filing the fellowship application entitles the student to consideration for all awards available in the student's department.

Students who wish to apply for loans should indicate their intent to do so on the application for admission. Information concerning loans is contained in a booklet available from the University's Office of Student Financial Assistance.

COOPERATIVE PROGRAMS

The American Studies Program at George Washington University has made a cooperative arrangement with the American Studies Program of the Smithsonian Institution. Members of the staffs of the Smithsonian's American Studies Program, National Museum of American History, National Portrait Gallery, and National Collection of Fine Arts offer seminars and tutorial instruction in fields that provide students with an unusual opportunity to develop new dimensions in the discipline of American civilization. This program of study is open to students working toward the degrees of Master of Arts and Doctor of Philosophy and is intended to prepare them for research, teaching, and museum-related careers.

The Art Department of George Washington University has made arrangements with the Smithsonian Institution to offer graduate programs of study and re-

search in museum studies leading to the degree of Master of Arts in the field of history with a concentration in museum training. The Department has similar arrangements with the Corcoran Gallery of Art, the Freer Gallery, the Hirshhorn Museum and Sculpture Garden, the Museum of African Art, the National Museum of American Art, the Phillips Collection, the Renwick Gallery, and the Textile Museum.

For further information concerning these programs, contact one of the following offices at George Washington University: the Graduate School of Arts and Sciences for those who are interested in any of the fields listed above, the Department for those interested in art museum training, the American Studies Program for those interested in the field of American civilization.

George Washington University, in cooperation with two other universities and the Folger Shakespeare Library, helped establish the Folger Institute for Renaissance and 18th-Century Studies as a cooperative venture in graduate studies in the humanities. Fifteen universities are now member institutions. Seminars (limited to 12 students each) are offered each semester under the direction of American and foreign scholars. The Folger Library forms the core of the Institute. All participants enrolled in the seminars are granted access to the collection of rare books, manuscripts, and reference materials of the Library. All registered students are eligible to apply for admission to one or more of the seminars, although priority in enrollment will be accorded graduate students working on dissertations and postdoctoral scholars from the sponsoring institutions. For information, including a listing of seminar topics, is available at the Folger Shakespeare Library.

CENTER FOR WASHINGTON AREA STUDIES

The Center for Washington Area Studies serves as the focal point at the University for interdisciplinary work related to Washington and its regional context. Through teaching, advanced research, publications, and public events that include tours, exhibits, and conferences, the Center works to promote a better understanding and appreciation of the history, culture, literature, and policies of the Washington region.

OFF-CAMPUS DEGREE PROGRAMS

The Graduate School of Arts and Sciences is currently offering the following degree programs off campus: the Master of Arts in the fields of Administrative Sciences, Criminal Justice, Legislative Affairs, and Telecommunication and the degree of Master of Forensic Sciences. Not all of these programs may be available in any given year.

SCHOOL OF EDUCATION AND HUMAN DEVELOPMENT

Dean L.D. Leonard

Acting Associate Dean S.R. Paratore

FACULTY 1989-90

Professors N.J. Belknap, J.G. Boswell, L.J. Breen, M.A. Burns, M.S. Castleberry, R. Ferrante, J.D. Fife, M.B. Freund, J.A. Greenberg, D. Hawkins, J.C. Heddesheimer, C.H. Hoare, D.H. Holmes, G.L. Horrworth, R.N. Ianacone, R.K. Ives, E.W. Kelly, Jr., L.D. Leonard, D. Linkowski, A.J. Mazur, D.A. Moore, S.R. Paratore, D.C. Paup, G.T. Pavlidis (Research), M.N. Rashid, J.R. Shotel, G.W. Smith, J.E. Snodgrass, C.E. Vontress, H. Wachs (Research), L. Winkler, B.R. Wolfman, M.J. Worth

Associate Professors N.E. Chalofsky, N.M. Dixon, J.A. McDonald (Visiting), L.R. Putnam, D.M. Saunders, G.E. Schou, J.M. Taymans, L.L. West

Assistant Professors S.S. Beck (Visiting), L.H. Cuenin, E.S. Fabian (Visiting), M. Garza-Lubeck, D.L. Gebhardt, W.F. Lynch, L.H. Mauro, H. Nashman, N.B. Paley, D.R. Schwandt (Visiting), P.A. Sullivan (Visiting), H. Willett (Visiting)
Instructors M.H. Futrell, S.B. Ives (Visiting), T.J. Martin, E.C. Rach, S.E. Spivack (Visiting), C.B. Stapp

Members of the Advanced Graduate Faculty

J. Belknap, J.G. Boswell, J.L. Breen, M. Burns, M.S. Castleberry, N.E. Chalofsky, W. Dew, N.M. Dixon, R. Ferrante, J.D. Fife, M.B. Freund, J.A. Greenberg, D. Hawkins, J.C. Heddesheimer, C.H. Hoare, D.H. Holmes, G. Horrworth, R.N. Ianacone, R.K. Ives, E.W. Kelly, Jr., L.D. Leonard, D. Linkowski, W.F. Lynch, A.J. Mazur, J.A. McDonald, D.A. Moore, S.R. Paratore, D.C. Paup, L.R. Putnam, M.N. Rashid, D.M. Saunders, J.R. Shotel, G.W. Smith, J.E. Snodgrass, J.M. Taymans, E. Vontress, H. Willett, L. Winkler

Committees*

EXECUTIVE COMMITTEE

J.G. Boswell, N.M. Dixon, J.C. Heddesheimer, G.L. Horrworth, R.N. Ianacone, E.C. Rach, G.W. Smith, J.E. Snodgrass

CURRICULUM COMMITTEE

M.S. Castleberry, N.M. Dixon, E.S. Fabian, W.F. Lynch, A.J. Mazur, P.A. Sullivan

FACULTY COMMITTEE

J. Belknap, R. Ferrante, M.B. Freund, C.H. Hoare, D. Linkowski, D.C. Paup

SCHOOL, COMMUNITY, AND ALUMNI AFFAIRS COMMITTEE

L.H. Cuenin, J.D. Fife, C.H. Hoare, H. Nashman

STUDENT COMMITTEE

N.E. Chalofsky, D.M. Saunders, P.A. Sullivan, J.M. Taymans, three student members

The dean and the associate dean of the School of Education and Human Development are ex officio members of all committees.

INTRODUCTION

The University began offering professional courses for teachers in 1904-5, and in 1907 it established a Division of Education. In 1909 the Division of Education became the Teachers College, which in its early years was concerned largely with teacher preparation on the undergraduate level.

In 1928 the Teachers College became the School of Education and Graduate provision was made for advanced study. Since that time the School has continued to grow; it now comprises a broad range of graduate and undergraduate programs. To reflect the current scope of its offerings, the name of the School was changed in 1978 to the School of Education and Human Development.

The School of Education and Human Development prepares teachers, human service and service industry personnel, resource and support personnel, and administrators for professional service. The School also offers opportunities for experienced professionals to extend and enrich their education. The programs are designed to meet the broad needs of persons who seek knowledge and skills necessary to provide effective learning and teaching, research, services, and leadership in a variety of settings. The School's programs address the needs of persons interested in careers in elementary and secondary schools but also include the preparation of individuals for all areas of education and human development, covering the life span from pre-school through the adult years in both the public and private sectors of society.

Thus, a degree in Education and Human Development is not only a preparation for teaching in schools but also for careers in a variety of public and private human service and service industry settings. A significant portion of the required courses are in the liberal arts. In addition, the programs provide opportunities for students to develop critical thinking and reasoning, as well as leadership, organizational, and planning skills. Emphasis is placed upon developing the human relationship qualities that are essential in fields that require interaction with people in all age ranges and from all walks of life.

The School of Education and Human Development is the administrative home for four departments: Educational Leadership, Human Services, Human Kinetics and Leisure Studies, and Teacher Preparation and Special Education. In addition to programs of study leading to its degrees, the School offers credit and non-credit workshops designed specifically to meet the unique needs of metropolitan school systems and other clientele in private industry and government.

Special curricula are tailored on an individual basis for liberal arts graduates and graduates of other professional schools who are interested in teaching in other human services areas. The School also offers a wide range of courses for teachers who wish to renew licenses and for provisional teachers who wish to prepare for teaching certificates.

Laboratory and clinical facilities are provided by the University Research Center and the Counseling Laboratory. Field experiences are provided in cooperation with public and private schools, social and health agencies, museums, institutions in the business community, and community and junior colleges.

The schedule of courses is arranged to meet the convenience of both full-time and part-time students.

Education for Careers in Teaching

Programs of study for teaching careers are based upon the assumption that every teacher should have a broad general education, mastery of specific studies related to the content of instruction, and professional knowledge and competencies.

The relative emphasis placed upon each of these aspects of the total education for teaching varies in accordance with the purposes of each program. For instance, since elementary school teachers teach all subjects, they require content preparation of greater breadth and less specialization than secondary school teachers.

It is the view of the School of Education and Human Development that an acceptable minimum education for teaching requires four years of full-time study or the equivalent in part-time study. For superior preparation teachers are urged to plan for five years of full-time study or the equivalent in part-time study.

The student may choose any one of the following plans to achieve superior educational preparation for teaching or for other education-related fields:

1. Upon receiving the bachelor's degree in education, he or she may take a teaching position and, after acquiring some professional experience, return to the School for graduate study leading to the master's degree. During the first year of teaching, in particular, graduates are encouraged to establish a close contact with the School of Education and Human Development, whose faculty will provide supportive assistance to beginning teacher graduates of the school. This plan enables students with bachelor's degrees to begin their teaching careers and to use their work experience to enhance graduate study that will follow.

2. The student may choose to pursue full- or part-time graduate study leading to the master's degree immediately after receiving the bachelor's degree.

3. A student whose bachelor's degree is in one of the liberal arts disciplines may choose to complete the requirements for certification for teaching by studying in one of the teaching fields in a program tailored to his or her particular needs.

Education for Careers in Human Services and Human Development

Programs of study for human service and human development careers are offered in the School of Education and Human Development. At the undergraduate level, these include programs in human services and in exercise and sport science. At the master's degree level, programs include adult education, community counseling, education policy studies, exercise science, human resource development, museum education, rehabilitation counseling, and tourism administration. Specialist programs are offered in adult education, counseling, human resource development, and special education. Doctoral programs are offered in human resource development and adult education, educational administration and policy studies, counseling, and human development.

At the undergraduate level, programs of study provide a strong liberal arts/general education component, specialty studies, professional studies, and supervised field experiences. Graduates are prepared to enter a specialty career field or continue with graduate studies. Master's degree programs offer advanced specialized studies in a selected field, and doctoral programs provide leadership, research, and advanced professional skills.

Professional Courses for Non-Education Majors (Teacher Certification)

Columbian College students in a number of major fields are permitted to use their electives to complete up to 18 credit hours of professional education courses required for teaching in junior and senior high schools. Students may graduate with 120 semester hours or may choose to complete all courses required for teacher certification and graduate with a program in excess of 120 semester hours. Students interested in taking these courses should contact the office of the Dean of the School of Education and Human Development for advising.

Freshmen and sophomore students may take professional education courses that include field work experiences. Some of these courses make it possible for students who are undecided about their choice of a career to have an opportunity to test teaching and some of the many related human service areas.

Many education courses are open to non-education majors. It is recommended that students check with the appropriate departmental office for more specific information on courses that are open.

The School of Education and Human Development offers secondary fields of study in early childhood education, exercise and sport, human services, secondary education (certification), special education, and tourism studies. Specific information is available in the brochure "Secondary Fields of Study" available in the office of the dean.

Study Abroad Programs

Study abroad programs for the academic year are currently available in England, France, Germany, Japan, China, and Peru. Students who wish to study in countries not mentioned here should check with the office of the dean. Credits earned with acceptable grades are transferable toward the appropriate degree at George Washington University, provided there is no duplication of work done previously. All programs of study abroad must be approved on the required form by the appropriate faculty and administrative personnel before departure. Information may be obtained from the Study Abroad Office, Stuart Hall, Room 101.

Study abroad is available at varying locations during the summer. Information on summer programs abroad is available in the GWU Summer Session Announcement and through the Division of Continuing Education.

REGULATIONS

See Admissions; Registration; Fees and Financial Regulations; Regulations.

THE BACHELOR'S DEGREES

The School of Education and Human Development offers undergraduate programs leading to the degrees of Bachelor of Arts in Education and Human Development (elementary education, elementary education/early childhood education, special education, and human services) and Bachelor of Science in Human Kinetics and Leisure Studies (exercise and sport science).

Entrance Requirements for Freshmen and Sophomores

Good character and an academic background appropriate for the program of studies contemplated are required.

Requirements for admission to the freshman and/or sophomore years are as follows:

1. An acceptable certificate of graduation from an accredited secondary school, showing at least 15 units,* which must include four years of English, at least two years of one foreign language; two years of science, preferably with laboratory instruction; two years of social studies, one of which must be American history; and two years of college-preparatory mathematics.

* A unit represents a year's study in a secondary school subject, including in the aggregate less than 120 sixty-minute periods, or the equivalent, of prepared classroom work.

2. The principal's statement that the applicant is prepared to undertake college work.

3. Standardized test scores submitted on College Board Achievement Tests in English composition and mathematics and on the Scholastic Aptitude Test, or on the American College Testing battery.

It is recommended that the College Board examinations be taken in December or January of the senior year. Scores on tests taken in the junior year may be submitted. Arrangements for tests are the responsibility of the applicant and should be made with the College Board Admissions Testing Program, CN 6200, Princeton, N.J. 08541-6200, not less than one month before the date of the tests. In applying for the tests, the applicant should specify that the scores be sent to the Office of Admissions, George Washington University, Washington, D.C. 20052. American College Testing battery scores are also accepted. The applicant should request that these scores be sent to the Office of Admissions directly from the American College Testing Program, Iowa City, Iowa. It is recommended that the applicant take the tests in October of the senior year.

The School of Education and Human Development will consider the adequacy of the qualifications of an applicant who, because of unusual circumstances, does not meet all of the formal requirements stated above. The School may require appropriate scholastic aptitude tests. Students admitted with deficiencies in secondary school units will be required to begin removing such deficiencies within the first year, by appropriate courses or examinations.

International students may be considered for admission with an equivalent foreign secondary certificate. A student presenting such a certificate must also show competence in the English language and may be required to enroll in a full-time program in English as a Foreign Language before beginning studies in a degree program. Requirements will be determined on the basis of an English Proficiency Test administered on campus. A candidate who submits a score of 80 or above on the Test of English as a Foreign Language (TOEFL) may be excused from taking further course work in English as a Foreign Language but will be required to take the English Placement Examination on campus.

Students who have been out of secondary school for three years or more or do not meet the above requirements may take a special battery of admission tests by contacting the Office of Admissions or may be considered for provisional admission to the School of Education and Human Development. A student admitted provisionally is required to complete a trial program of 15 semester hours of course work with a quality-point index of 2.50 or higher. The selection of courses to be taken in the trial program must be made in conference with a faculty advisor.

All undergraduates admitted directly to the School of Education and Human Development are assigned academic advisors at the time of admission. Advisors are designated to provide continuity of advising for students throughout their years of undergraduate study. The program for each student must be approved by faculty advisor.

Since each student's program is defined by individual needs, it is important that students have a clear concept of their major interest in education and the human services. In the case of teacher education students, they should be familiar with the certification requirements of those localities in which they expect to teach. Information on state licensing requirements is available in the Career Services Center, located in the Academic Center.

Admission With Advanced Standing

Requirements for admission of students transferring from other regionally accredited colleges and universities and from other divisions of this University as follows.

Students who have accumulated 15 hours or more of academic credit at another regionally accredited college or university with an acceptable program and acceptable grades may be admitted to the School of Education and Human Development as transfer students with advanced standing. Such transfer students must have a quality-point index of 2.50 or better for college course work and must meet freshman requirements. Advanced standing may be awarded for properly certified courses for which the student received a grade of C or better, provided that such courses are comparable to the curriculum requirements of the degree at GW. In the case of course work from a two-year college, no more than 63 semester hours of credit may be applied as advanced standing toward the total number of semester hours required for the bachelor's degree.

Although a grade of D in a course is not acceptable for transfer, the course may be used to satisfy a curriculum requirement. Credits earned with a D grade may not, however, be counted toward advanced standing.

The School reserves the right to refuse credit for transfer in whole or in part or to allow credit provisionally.

It is the responsibility of the student to have an official transcript sent directly from each institution formerly attended to the Office of Admissions, Georgetown University, Washington, D.C. 20052.

Students may transfer from another division of this University into a degree program in the School of Education and Human Development. The student must present an accumulated quality-point index of 2.50 or higher at the time of transfer. The student must submit a formal application of transfer to the Office of Admissions.

Students applying for transfer from another accredited college or university or from another division of this University, who do not meet the formal requirements for admission with advanced standing or whose previous academic records raise doubts of their ability to complete degree requirements successfully, may be provisionally admitted to the School of Education and Human Development. To be admitted into the School's degree program, a provisionally admitted student must complete a prescribed trial program of 15 semester hours of college work with a quality-point index of 2.50 or higher.

The selection of courses to be taken in the trial program must be made in a conference with a faculty advisor in the School of Education and Human Development. A conference concerning plans for study as a degree candidate is required of each applicant at the beginning and end of the trial program. Upon successful completion of the trial program, the student who has submitted a degree-candidate application will be advanced to degree status.

Nurses filing for admission to the bachelor's program in Human Services are required to submit a copy of their current state nurse's registration (license) in addition to the official transcripts. Nurses may be awarded advanced standing for work completed in a community or junior college program. They may receive advanced standing of up to 45 credit hours for course work completed as part of a three-year nursing diploma program in a teaching hospital. Graduate associate's degree nursing programs may be awarded advanced standing of up to 63 credit hours.

General Scholarship Requirements for Undergraduates

Regulations regarding academic standing, probation, suspension, withdrawal, classification of students, required placement examinations, and waiving introductory courses by examination are the same as those for Columbian College; they appear on pages 68–69 and 72–73 of this *Bulletin*.

ACADEMIC WORK LOAD

Fifteen to 17 semester hours of credit constitute a normal program. A student with a quality-point index of 3.00 or higher may, with the permission of the dean, enroll for 18 or 19 hours. No student may enroll for more than 19, except by permission of the dean.

The following work load regulations apply to both graduate and undergraduate students. Permission of the dean, in the circumstances outlined below, requires a request form that is to be filed in the office of the dean at the time of registration.

Students employed 15 hours or less a week may carry a normal program of college work.

Students employed from 16 to 25 hours a week may enroll for 12 or 13 hours. Those with a quality-point index of 3.00 or higher may, with special permission of the dean, enroll for 15 or 16 hours.

Students employed from 26 to 34 hours a week may enroll for 9 or 10 hours. Those with a quality-point index of 3.00 or higher may, with special permission of the dean, enroll for 12 or 13 hours.

Students employed 35 hours or more a week may enroll for 6 or 7 hours. Those with a quality-point index of 3.00 or higher may, with special permission of the dean, enroll for 9 or 10 hours.

Students who increase their hours of employment after registration or at any time during a semester must report immediately to the dean so that their programs may be adjusted if necessary.

Graduate students employed full time may take a maximum of 6 semester hours, unless special permission to take more is granted by the dean.

REQUIRED PLACEMENT EXAMINATIONS

English—Students whose College Board English Composition Achievement test scores suggest that they will benefit from more intensive training in composition skills may be assigned to Engl 9 or may be tested in vocabulary, spelling, grammar, standard usage, and writing skill before placement in either Engl 9 or 10.

Foreign Languages—A student who has not been granted advanced standing and wishes to continue in college the language begun in high school must take a placement examination in one of the following: Chinese, French, German, Greek, Hebrew, Italian, Latin, Russian, or Spanish. Upon completion of the examination, assignment is made to the appropriate course.

Mathematics—New students accepted for registration in Math 30 are required, prior to registration, to take a placement examination in algebra and trigonometry; those wishing to register in Math 51 are required, prior to registration, to take a placement examination in algebra.

EARNING CREDIT BY EXAMINATION

Undergraduate students may earn credit up to a maximum of 30 hours by performing satisfactorily on College-Level Examination Program (CLEP) tests or special departmental examinations provided by the departments of Columbian

College of Arts and Sciences on an individual basis. Passing a waiver examination does not entitle the student to any semester hours of credit in the School of Education and Human Development. A limited amount of credit may be assigned for selected service school instruction.

Students interested in becoming certified to teach who have earned bachelor or graduate degrees in fields other than education may satisfy some certification requirements by taking the CLEP tests or special departmental examinations. See pages 21–22 for general information on the CLEP tests and for information on special examinations offered by departments.

Requirements for the Degrees

To be recommended for a degree, a student must satisfy the admission, residence, scholarship, and curriculum requirements. The amount of course work required for bachelor degrees is as follows:

Bachelor of Arts in Education and Human Development—elementary education, elementary education/early childhood education (double major), special education, and human services, 126 semester hours.

Bachelor of Science in Human Kinetics and Leisure Studies—exercise and sport science, 124 semester hours.

RESIDENCE

Candidates for the bachelor's degree must complete satisfactorily a minimum of 30 semester hours in the School of Education and Human Development.

DEAN'S LIST

To be eligible for the Dean's List a full-time student must obtain a quality-point index of 3.5 on courses completed during the past semester. A part-time student to be eligible, must obtain a quality-point index of 3.5 on the last 12 semester hours of course work. Such part-time students must be in residence and must be continuously enrolled.

SCHOLARSHIP REQUIREMENTS

For the system of grading and of computing scholarship, see page 46.

A quality-point index of at least 2.50 is required before permission is granted to do student teaching in the senior year. In order to graduate, a student must have a quality-point index of at least 2.25.

Probation—A student who fails to maintain a quality-point index of at least 2.25 is placed on probation. The student remains on probation as long as the index is below 2.25 or until probation is removed by the Student Committee.

Suspension—A student on probation who fails to raise the index to 2.25 within the time specified may be suspended.

A student suspended for poor scholarship may, within 10 days, appeal the suspension through the dean to the Student Committee. If the case appears to be remediable and the student's scholarship seems likely to improve, the Committee may readmit the student on probation. A student denied readmission may again appeal after a lapse of a calendar year, petition the Committee through the dean for readmission. A student suspended twice will not be readmitted.

USE OF CORRECT ENGLISH

Any student whose written or spoken English in any course is unsatisfactory may be reported by the instructor to the dean. The dean may assign supplementary

tary work, without academic credit, varying in amount with the needs of the student. If the work prescribed is equivalent to a course, the regular tuition fee is charged. The granting of a degree may be delayed for failure to make up such deficiency in English to the satisfaction of the dean.

CURRICULUM REQUIREMENTS

In all bachelor's curricula at least 60 semester hours must consist of courses numbered above 100 or the equivalent in transfer credits.

PASS/NO PASS OPTION

A junior or senior student who has a cumulative quality-point index of 2.50 or better may, with the approval of an advisor and the dean, take one course a semester and receive a grade of P (Pass) or NP (No Pass), which will be recorded on the student's transcript but will not be reflected in the student's quality-point index. No student will be allowed to take more than four pass/no pass courses. Students must sign up for such an option at registration. Students may change from pass/no pass status to graded status, or vice versa, after the end of registration only with the permission of the dean and the course instructor. Courses required in the student's major field may not be taken on the pass/no pass basis. A transfer student may not choose this option until the second semester of enrollment at this University.

INCOMPLETE/AUTHORIZED WITHDRAWAL

Conditions under which the grades of I (Incomplete) or W (Authorized Withdrawal) may be assigned are described under Regulations.

Changing an Incomplete—When a grade of I is assigned, the instructor should normally set a period within which the uncompleted work (usually the final examination or a required paper) must be made up. When required work has been completed, it is the responsibility of the instructor to change the grade of I as appropriate. If work is not completed, the instructor will decide whether to change the grade of I to F or to allow the I grade to remain. The grade of I cannot be changed by reregistering for the course here or by taking its equivalent elsewhere.

NATIONAL TEACHER EXAMINATION

The National Teacher Examination is required for teacher education majors. Students who take the Examination receive individual reports of test scores and may avail themselves of the regular transcript services of the Educational Testing Service.

Bachelor of Arts in Education and Human Development Teacher Education Programs

Teacher education programs leading to the degree of Bachelor of Arts in Education and Human Development (elementary education, elementary education/early childhood education, and special education) are planned to provide (1) a general education component, (2) a strong academic background relevant to one or more teaching fields, (3) a mastery of professional knowledge and skills necessary for the beginning teacher, and (4) development of attitudes needed for success in teaching.

GENERAL EDUCATION

The general education component is an integrated course of study that provides teacher education students appropriate depth and breadth in the liberal arts and sciences. The general education component provides theoretical and practical knowledge gained from studies in languages, mathematics, sciences, history, philosophy, literature, and the arts.

The following is the general education curriculum for the Bachelor of Arts in Education and Human Development degree with major fields in elementary education, elementary education/childhood education, and special education. Certain introductory general education courses may be waived according to regulations explained elsewhere in this *Bulletin*, and higher-level courses may be substituted in the same field. Students should consult their advisors regarding waiving and substituting courses. Waiving a course does not allow a reduction in semester-hour requirements.

The following courses are required. Engl 9 or 10, 11, and 51-52 or 171; Math 9 and 10; 6 credit hours in biological science and 3 in physical science or vice versa; 9 credit hours of social science courses; SpHr 11; and (for students in elementary education and special education only) HmKn 122.

PREPROFESSIONAL STUDIES

Preprofessional studies consist of introductory education and human development courses that students take in their freshman and sophomore years. These studies introduce students to the broad field of education, provide basic knowledge about human development, and afford initial field experiences in educational and human development settings.

Preprofessional course requirements for elementary education and early childhood/elementary education are TrEd 50, Educ 171 and 172. Preprofessional course requirements for special education are Educ 171; SpEd 57, 58, and TrEd 105.

SPECIALTY STUDIES

The specialty studies provide teacher education students with a mastery of structure, skills, concepts, ideas, values, and facts that constitute their field of specialization. It encompasses both concentrated study and knowledge of methods of inquiry appropriate to the specialty area.

The content of a student's specialty studies depends upon the teaching situation for which the student is preparing. The student may begin specialty studies during the first two years.

PROFESSIONAL EDUCATION

The basic professional information, skills, and attitudes needed by beginning teachers are provided through a sequence of courses to be taken throughout the four years of undergraduate study. Lectures and class discussions are coordinated with fieldwork. The prescribed courses in special methods are concerned primarily with methods of initiating, guiding, and evaluating learning experiences dealing with the content of teaching fields. They attempt to bring the student specific suggestions drawn from the accumulated experiences of successful teachers. In addition, the courses review the teaching-field conditions currently in use in schools.

Second-semester sophomore students in teacher preparation programs must file an application for permission to complete the professional studies component.

ment in the junior and senior years. Applications may be obtained in the Office of the Dean or the Office of Laboratory Experiences. Academic advisors must recommend students for the professional studies component. A writing sample is required.

Students with an education major must be approved for student teaching prior to the eighth semester by their academic advisors. A grade-point average of 2.50 is required as well as a valid medical certificate indicating that the student has taken a T.B. test and is free of tuberculosis.

The teacher education programs and their requirements are as follows.

Elementary Education Program

GENERAL EDUCATION REQUIREMENTS (See General Education curriculum, above.)

PREPROFESSIONAL STUDIES (See Preprofessional Studies, above.)

SPECIALTY STUDIES

The required courses are HmKn 122 and 3 semester hours each of U.S. history, geography, economics, art history, and music history.

PROFESSIONAL COURSES

The required courses are Educ 104, 112, 180; SpEd 105, 110, 111, 128, 135.

Special Education Program

GENERAL EDUCATION REQUIREMENTS (See General Education curriculum, above.)

PREPROFESSIONAL STUDIES (See Preprofessional Studies, above.)

SPECIALTY STUDIES

Same as the elementary education program above, plus Psyc 101.

PROFESSIONAL COURSES

The required courses are SpEd 102, 189, 170, 103, 190, 101, 199, 160, 168; Educ 12, 180; TrEd 110, 118, 128.

Elementary Education/Early Childhood Education Program

Early childhood education can be selected as a second major in conjunction with the elementary education major. The preprofessional studies, general education, specialty studies, and professional courses are the same as those required for elementary education. In addition, students are required to complete TrEd 132, 150, 152, 153, and 154.

Bachelor of Arts in Education and Human Development Human Services Program

The Human Services Program is designed for persons who are employed or wish to work in the following representative types of human service areas: hospitals and health care agencies, residential centers, cultural institutions, substance abuse rehabilitation programs, correctional institutions, and voluntary agencies.

The program includes a core of course work in the human services, field experiences in diverse human services settings, and academic concentrations in selected academic departments of the University. Each program is individually planned after evaluation of the student's professional and educational background and long-range goals.

Students planning to major in human services take the following courses: Engl 9 or 10, 11, 51–52; Comm 1, 121; one course chosen from Math 9, 10, or 12 or 51 or 53; BiSc 3–4 or an alternative approved science sequence; 27 credit hours of courses in the social sciences that have been approved by the advisor, including a course in professional ethics and at least 6 hours of history or political science and 9 hours of anthropology and/or sociology; 9 hours of electives. The core program consists of 39 credit hours, including TrEd 50, 105; Educ 171, 104; HmSr 176, 182, 195; SLP 152; and 9 additional hours in the core program selected with approval of the advisor. The concentration consists of 24 credit hours and is selected from the following fields: early childhood education, rehabilitation services, special education, adult education, health services administration, and human resource development. In addition, students select a minor in rehabilitation services, consisting of five core courses and a subspeciality in developmental disabilities, client advocacy, or psychological disabilities.

Bachelor of Science in Human Kinetics and Leisure Studies Exercise and Sport Science

Students who plan to major in exercise and sport science take the following courses in the first two years of study: Engl 9 or 10 and 11; four courses selected from American civilization, anthropology, economics, geography, history, political science, psychology, or sociology; two courses selected from biological sciences, chemistry, geology, mathematics, or physics; Comm 1 or 111 or SpEd 103; HmKn 103, 109, 110, 111, 112, 130, 150, 151; four semester hours of electives; and three HmKn or other electives selected with the approval of the advisor. In the third and fourth years, the following courses are taken: Engl 161–62, 171; and 21 credit hours of elective courses approved by the advisor.

GRADUATE STUDY

The School of Education and Human Development offers graduate programs leading to the degrees of Master of Arts in Teaching, Master of Education, Master of Arts in Education and Human Development, Education Specialist, and Doctor of Education.

Grades

For graduate work, grades are indicated as A, Excellent; B, Good; C, Minimum Pass; F, Fail; I, Incomplete; IP, Progress; W, Authorized Withdrawal; Z, Unauthorized Withdrawal; CR, Credit. Grades A, B, C, and F are counted in computing the quality-point index (see page 46).

Whenever a grade has not been assigned, the symbols I (Incomplete) or IP (Authorized Withdrawal) will be recorded. The I indicates that a satisfactory explanation has been given to the instructor for the student's failure to complete the required work of the course. An instructor recording a grade of I will normally stipulate a date by which work must be completed. The instructor has the responsibility for changing the grade of I to an appropriate grade upon completion.

tion of work or, if work is not completed by the stipulated date, determining whether the grade of *I* should be changed to *F* or allowed to remain in the record.

Use of Correct English

Any student whose written or spoken English in any course is unsatisfactory may be reported by the instructor to the dean. The dean may assign supplementary work, without academic credit, varying in amount with the needs of the student. If the work prescribed is equivalent to a course, the regular tuition fee is charged. The granting of a degree may be delayed for failure to make up such deficiency in English to the satisfaction of the dean.

Regulations governing English language tests and courses for all international students who are graduate degree candidates are listed under The Degree of Doctor of Education.

THE DEGREE OF MASTER OF ARTS IN TEACHING IN THE FIELD OF MUSEUM EDUCATION

The School of Education and Human Development offers an intensive interdisciplinary program in museum education. The program is designed to prepare selected graduates, postgraduates, and professionals for work in art, history, or science museums; zoos, aquaria, or nature centers; and historical societies or sites. Graduates qualify to serve as liaison persons between schools and museums and as professionals in museum-related private and public agencies.

Those interested in museum studies more generally should refer to Museum Studies under Courses of Instruction.

Admission

To be admitted to the program in museum education an applicant must (1) have a bachelor's degree from an accredited institution; (2) submit three written references attesting to quality of academic record and work experience; and (3) be interviewed by the Selection Committee or make alternative arrangements specified by the Committee. Skills in communication, a desire to study and learn from museum collections, and an ability to work with people are essential. Evidence of strong undergraduate, graduate, or professional experience in such fields as American studies, anthropology, art history, fine arts, or the biological or physical sciences is desirable.

Plan of Study

All degree candidates take five sequential core courses in three successive semesters beginning in June and ending in April of the following year. Each student also pursues four elective courses in a chosen museum-related academic discipline. Two carefully supervised field placements provide direct museum education experience. In the fall semester, students serve two days a week as museum resource consultants to schools or alternative educational sites. In the spring semester, students hold four-day-a-week internships in a museum or museum-related organization. For details, write the Museum Education Program, George Washington University, Washington, D.C. 20052.

THE DEGREE OF MASTER OF EDUCATION

Elementary Education—The Master of Education in the field of elementary education is designed for those with an undergraduate degree in a major other than education. The minimum 45-semester-hour program includes course work

for students who wish to become eligible for certification for teaching at elementary school level; additional course work in content areas may be needed to meet specific jurisdictional requirements for certification.

Secondary Education—The Master of Education in the field of secondary education is designed for those with an undergraduate degree in a major (or with substantial course work) in a field taught in secondary schools. The 36-semester-hour program provides eligibility for teacher certification and includes 24 hours of required courses in education theory and pedagogy and 12 hours that may be in either education or the subject area intended to be taught.

THE DEGREE OF MASTER OF ARTS IN EDUCATION AND HUMAN DEVELOPMENT

The degree programs leading to the Master of Arts in Education and Human Development are designed to provide students with specialized knowledge and skills required for advanced professional competence in a variety of education, human development, human service, and service industry careers. Each program of study involves a combination of classroom and field-based learning experiences tailored to a professional specialty and individual student needs. Students engage in a wide range of teaching and research approaches that reflect the School's commitment to excellence in professional education.

The diversity of master's programs in the School of Education and Human Development reflects its belief that education and human development comprise a multifaceted enterprise reaching persons of all ages in a variety of settings. These programs develop professional knowledge, skills, and attitudes that enable graduates to foster human learning, growth, and development in individuals throughout society. Depending on the program specialty, students are prepared to pursue careers in schools, universities, community-based and human service organizations, cultural and leisure institutions, and business and government settings.

Master's programs are available in the fields listed on the following page.

Administration of College Student Development Services

The focus of this program is on the development of broad-based administrative and management skills adapted for use in programs and services that focus on college student development. The program provides preparation in administration, counseling, group facilitation, leadership training, and organizational development.

This 39-semester-hour program includes courses in foundations of college student development, college students and their communities, group theories and techniques, higher education in the United States, and foundations of counseling and human development. The program also includes supervised experience, practicum, and seminars as deemed appropriate.

Adult Education

This program is planned for those planning careers as learning specialists, administrators, counselors, and consultants in the field of adult education. In addition to persons with academic training in education, individuals with experience in many other fields can combine their knowledge in a specific field with graduate training in adult education and thereby begin a career transition into adult education.

The 39-semester-hour program includes courses in adult education, program planning in adult education, adult learning, and current issues in adult learning programs. The program includes 15 semester hours of elective courses, which the student plans in consultation with a faculty advisor. This portion of the program offers an opportunity to select courses especially suited to individual career interests.

Counseling

The master's programs in counseling are designed to provide three specialty concentrations and one subspecialty concentration for entry-level positions in professional counseling. Program graduates are prepared to specialize in a specific field and to work in a variety of settings in which professional counseling is offered. All counseling concentrations require the equivalent of two full years of study and provide core learning experiences that combine professional and behavioral studies with supervised laboratory, practicum, and internship experiences. Some programs have specific prerequisites in addition to the general admissions requirements. The master's programs in school counseling and community counseling and the doctoral program in counseling are accredited by the Council for the Accreditation of Counseling and Related Educational Programs. The master's program in rehabilitation counseling is accredited by the Council on Rehabilitation Education.

The core course of studies for all program concentrations includes course work in the foundations of counseling, human behavior and development, mental health problems, testing and appraisal, career development, individual and group counseling, cross-cultural counseling, and research and statistics.

Community Counseling

This is a 48-semester-hour program. Candidates who complete the program are prepared to enter the counseling profession in a variety of human service settings, including welfare and other social service agencies, penal institutions, court systems, employment centers, allied health agencies, government service agencies, community college counseling centers, employee assistance programs, and private practice.

School Counseling

This 48-semester-hour program provides professional preparation for individuals to become certified as counselors in public and private schools. The program is designed to provide students with the requisite knowledge and skills to provide professional counseling, assessment, consultation, and guidance services in a school setting.

Rehabilitation Counseling

This program prepares rehabilitation counselors to assist persons who are physically, mentally, emotionally, or socially disabled to assume or resume their place in society. The rehabilitation counselor works with the client to develop and implement a plan to assist in such areas as independent living, job placement, supported employment, overcoming substance abuse and other physical and social barriers to living a full and satisfying life. The program requires 51 semester hours. In an accelerated program, persons with an undergraduate degree in human services/rehabilitation services can complete this program with a minimum of 33 semester hours.

Employee Assistance Counseling

This subspecialty can be elected as part of either the community counseling or rehabilitation counseling programs. The subspecialty is designed to prepare graduates as professional counselors in employee assistance programs in business, industry, and government settings.

Curriculum and Instruction

This program is designed to prepare teachers and other educational personnel for increased responsibilities in the planning, implementation, and evaluation of curriculum and instruction.

The 33-semester-hour program includes study in curriculum development, research and evaluation of instructional practice, teacher education, work with special populations, and school policy and management. A program specialization may include advanced study in elementary education, a content area in secondary education, English as a second language, education of the gifted and talented, reading, or special education. A practicum is required.

Education Policy Studies

The program in education policy studies is designed for students who wish to develop skills in the technical, political, and managerial aspects of education policy analysis. Emphasis is placed on developing both a broad understanding of the political and social environment in which education policy is formulated and the technical competence to undertake independent analysis of a policy initiative. Internships are offered in a variety of federal, state, and local agencies.

The 36-semester-hour program includes course work in the policy-making process, planning, evaluation, and current social policies influencing education. At least 9 hours of electives must be taken in a field of specialization. The student may elect to write a thesis in place of 3 semester hours of course work.

Educational Technology Leadership

This program is designed for persons who are entering or advancing in positions associated with schools, higher education, alternative educational settings, or other human service occupations in which computers and related information delivery technologies are used. The program of studies provides students with opportunities to develop the knowledge, understanding, and skills necessary to provide leadership in the rapidly changing environment of technology used in education.

The 36-hour program includes required course work in the theory and practice of educational technology, including the use of computers and other instructional technology systems, technological management systems, policy-making research methods, and leadership. Twelve hours of the program are specialized electives, which can be chosen, with the advisor's consent, from departments in the University. Students may elect to complete a thesis in place of an elective credit with the prior consent of the advisor.

Elementary/Secondary Administration

This program provides the entry-level professional with preparation for certification in leadership positions, such as principal, assistant principal, and department head in elementary and secondary schools. Candidates must have a minimum of three years of successful teaching experience.

The 33-semester-hour program includes courses in fundamentals of educational administration, foundations of curriculum development, supervision

instruction, the K-12 principalship, supervision in the elementary and secondary schools, school business management, human relations in educational management, and school law. Certification requirements for some states may extend the program beyond 33 semester hours.

Exercise Science

This program is designed to develop competencies to assess physical fitness; prescribe therapeutic activities; conduct exercise programs; evaluate program effectiveness; identify sports injuries, EKG abnormalities, and anxiety factors related to fitness; and apply principles of exercise physiology and kinesiology to physical conditioning and performance.

The 36-semester-hour program includes courses in motor learning and performance, advanced concepts in motor development, fitness evaluation and exercise prescription, sports medicine, principles and concepts of employee health/fitness programs, and exercise, stress, and cardiac rehabilitation. Practicum opportunities on campus are available in the University's Runner's Clinic and the Cardiac Rehabilitation Exercise Program. A variety of off-campus practicum sites are also available.

Higher Education

This program is designed so that a student may select a concentration in administration, teaching, or curriculum. The program helps to prepare students for administrative positions in institutions of higher education, associations, national and international governments, and business. The course of studies offers an intensive review of the history, scope, present status, and trends of higher education in the United States in comparison to selected systems in other parts of the world. Students gain knowledge and skills related to the governance, organization, and administration of colleges and universities.

The 39-semester-hour program includes courses on higher education in the United States, administration of higher education, and the community/junior college. An internship is required.

Human Resource Development

This program is designed for persons entering or advancing in positions associated with training, education, and development activities, in business, industry, government, and other large organizations in the public or private sector. The program is interdisciplinary, and students are encouraged to tailor their programs to individual career needs and objectives.

The three required courses in the 36-semester-hour program include foundations of and issues in human resource development and adult learning. Fieldwork in cooperating Washington-area business, industry, government, and community organizations may be a part of the learning experience.

Individualized Master's in Education and Human Development

This program provides the opportunity to develop an individualized curriculum that cuts across existing fields, both within the School of Education and Human Development and between the School and other schools and departments of the University and the Consortium. The program is designed to meet specific, identified career and professional objectives of applicants who have unique needs. The flexible program structure can be tailored to prepare for new and emerging fields in education and human development.

This program of 36 semester hours is available within or across the departments of the School of Education and Human Development. The program must contain a 12-semester-hour core curriculum consisting of courses in human development, social/historical/philosophical foundations in education, and curriculum. The remaining 24 semester hours must correspond directly to the program objectives and bear a direct relationship to each of the areas identified above. A minimum of 6 semester hours of fieldwork, or the equivalent, must be a part of the program.

Individualized Master's in Human Kinetics and Leisure Studies

This program is designed to permit students to pursue a course of studies to meet unique professional goals for special areas and fields in human kinetics and leisure studies. The program allows students the opportunity for a course of studies that cuts across program offerings either within the department or across departments. A set of program objectives is specified for each individual, based on the background and professional goals of the student and related to the overall objectives of the School.

This is a 36-semester-hour program, with specific course work determined by consultation by the advisor and student. Total semester hours may be more than 36 if additional courses are needed to meet the student's stated objectives. A practicum and oral comprehensive examination are required.

International Education

This program is designed for persons who are entering or advancing in positions associated with training, education, adult learning, and development activities in diverse settings that require international understanding. The program provides knowledge of other countries and cultures, using the education system as a means of interpreting and translating knowledge across cultures and analyzing the formal and nonformal school systems as they reflect history, culture, development, values, contemporary concerns, and future trends.

The 33-semester-hour program allows a selection from a variety of subspecialization areas. Four courses are chosen from international education, comparative education, selected topics in international education, international experience, and futurism. The 9-semester-hour subspecialty complements the major area of study and may be taken in any division of the University. A comprehensive examination is required.

Reading Progress Management: Classroom and Clinic

This program is planned to prepare reading education professionals as specialists for teachers, clinicians, consultants, and supervisors. The program develops competencies in the foundations of reading instruction, classroom and individual diagnosis and treatment, and specialized knowledge areas reflecting the student's career interests. This enables students to meet the professional standards for reading specialists as specified by the International Reading Association. Theory and practice are carefully integrated in classroom courses and in practicums that are school-based or in the Reading Center, a multidisciplinary clinical center located in the School of Education and Human Development.

The 33-semester-hour program includes courses in foundations of reading development, diagnostic teaching of reading (K-6), clinical study of reading problems, and assessment of cognitive functioning. Depending on a student's career interests, courses are taken in reading in the content areas at the second

level, cognitive models and instruction, the organization and administration of reading programs, or severe learning disabilities in reading.

Special Education

The four master's programs in special education provide core and specialty studies and field experiences designed to prepare highly competent and committed professionals for a broad range of educational and leadership roles in the field of special education and related services.

Early Childhood Special Education

This program is designed to prepare educators with insight and knowledge in the areas of the development of young exceptional children, handicapping conditions, identification and assessment procedures, and clinical teaching and alternative models of service for developmentally delayed young children. The program prepares teachers of developmentally delayed young children (a direct service role) and early childhood special education strategists (a consultative role).

The 39-semester-hour program includes courses in language development, typical and atypical development, developmental and formal assessment, multidisciplinary theory, professional roles, family intervention skills, behavior management, and legal policy concerns. A seminar, practicum, and internship are required.

Early Intervention

This program is designed to prepare professionals to serve the needs of developmentally delayed and at-risk infants and toddlers and their families. The course of study prepares students to perform direct service, administrative, consultative, and research roles in health care, human services, and educational settings. Internships in specialization areas include hospital-based programs, infant intervention settings, developmental assessment clinics, research facilities, day-care centers, and advocacy organizations.

The 39-semester-hour program includes courses in medical and genetic issues, infant development and assessment, neurodevelopmental programming, technology, family systems intervention, case-management approaches, and interdisciplinary team functioning. A seminar, practicum, and internship are required.

Special Education for Seriously Emotionally Disturbed Adolescents

This program prepares special educators to work as members of multidisciplinary teams in residential sites, extended day care centers, and schools that serve seriously emotionally disturbed adolescents. Participants develop professional skills to assess problems, plan teaching strategies, create a therapeutic milieu, use multiagency resources, counsel students and their families, and build realistic learning and living expectations.

The 39-semester-hour program includes courses in developmental assessment of adolescents, psychoeducational characteristics of the seriously emotionally disturbed adolescent, specialized curriculum methods and intervention strategies, and interdisciplinary theory and planning approaches. Students are required to participate in an internship and in course work or clinical experiences in the Psychiatry and Behavioral Sciences and Psychology Departments.

Transitional Special Education

This program is designed to train those who help youth and adults with special needs to make the transition from school to independent living and employment. The program requires at least 39 semester hours of graduate course work and field experience, although the total number of hours will vary depending on certification options selected by the student. The following areas of specialization are offered: secondary and vocational programming, collaborative vocational evaluation, corrections, school-based vocational evaluation, learning disabilities, and community living and supportive work.

Supervision

This program is designed primarily to prepare teachers and other educational personnel for increased responsibility in teaching and for supervisory positions. The program offerings lead toward certification for supervisory positions in many school jurisdictions. Basic courses relate to general supervisory principles, responsibilities and are also of interest to educators in non-school education and human service agencies. Candidates must have a minimum of three years successful teaching experience.

The 33-semester-hour program includes courses in the foundations of curriculum development, human relations in educational management, supervisory instruction, and supervision in the elementary and secondary school. Appropriate elective courses, selected with the approval of a faculty advisor, allow students to increase knowledge and skills in teaching content areas and in humanistic and behavioral disciplines related to education and supervision. The program is structured to meet certification requirements in the District of Columbia, Maryland, Virginia, and some other states.

Tourism Administration

This program is designed to prepare persons to enter and advance in a professional career in travel and tourism. An internationally oriented program concerned with the professional and research aspects of travel and tourism, the program enables the student to develop competencies needed for a career in the travel and tourism field, with possible specialization in marketing and management administration; data processing and quantitative skills; communications and public relations; public policy and administration; historic, cultural and national resource development; and travel industry operations.

At least 36 semester hours are required, including a thesis and a comprehensive examination. In addition to 12 semester hours from one or two tour component concentrations, the required courses cover tourism development, planning for tourism, and economic, social, cultural, and ecological aspects of tourism. A 39-semester-hour nonthesis program is available; the comprehensive examination may be waived.

ENTRANCE REQUIREMENTS FOR THE MASTER OF ARTS IN EDUCATION AND HUMAN DEVELOPMENT

The School of Education and Human Development seeks applicants with strong academic potential, high motivation, and aptitude to do graduate-level work. Admission decisions are based on an evaluation of all material submitted in support of the application. The School requires official transcripts of all previous undergraduate and graduate course work and acceptable test scores on either the Graduate Record Examination or the Miller Analogies Test.

Two letters of recommendation and a personal interview with the Graduate Admissions Coordinator are required. The interview may be waived with permission of the coordinator for those living outside the Washington metropolitan area.

In addition to these basic requirements, individual programs may require personal interviews, relevant professional experience, and other supporting documentation before a final decision on admission is made. Upon receipt of the application to the individual School program, information on specific requirements will be sent to the applicant. The personal interview, professional experience, and supporting references provide important qualitative evidence concerning an applicant's academic potential and professional background.

The admission review is based upon a comparison of qualifications among all those who apply, weighing both the School's general admissions criteria and program-specific criteria.

Positive decisions are made quickly for applicants who present uniformly strong application credentials in all areas. In some cases, unusually strong factors will offset comparatively weak factors and result in an offer of admission to provisional status in the School. For a student to be admitted to full candidacy from provisional status, he or she must earn grades of B or better in a minimum of 9 semester hours of course work.

ADVANCED STANDING

Advanced standing is granted for approved courses taken at other accredited institutions, but a minimum of 24 semester hours must be completed at this University as a master's candidate.

A maximum of 12 semester hours of advanced courses completed in this University in excess of the requirements for the bachelor's degree may be credited toward the master's degree if the work fits in with the student's plan of specialization.

Advanced standing is not granted for work completed five or more years before application for admission or readmission to master's candidacy. All work accepted for advanced standing must have been earned with a grade of B or better and must be approved for acceptance by both the advisor and the dean. Credit, satisfactory, Audit, or other nonletter grades are not acceptable.

PLAN OF STUDY

The plan of study leading to the degree of Master of Arts in Education and Human Development requires a minimum of 33 hours of graduate credit. Several programs have additional credit hour requirements. The plan may, at the student's option, include a thesis carrying six hours of graduate credit. Whether or not a student selects the thesis option, a minimum of 18 hours must be from courses planned primarily for graduate students (third-group courses). A minimum of 12 hours, not including the thesis, must be from courses offered by the School of Education and Human Development.

Programs are planned initially in conference with an admission advisor in the School of Education and Human Development and subsequently with a designated advisor in the candidate's area of specialization. Programs are based on a candidate's interests and background; those related to teaching in public schools are designed around certification requirements of the state and locality in which the candidate plans to teach.

All degree requirements must be completed within six years.

CONTINUOUS ENROLLMENT AND RESIDENCE

A candidate for the master's degree is required to complete satisfactorily semester hours in residence. Students must be continuously enrolled in the School of Education and Human Development unless the dean grants a leave of absence. Failure to register each semester of the academic year may result in lapse of candidacy. Subsequent readmission is subject to whatever new conditions and regulations have been established by the School.

Students who are graduating, requesting grade changes from that of Incomplete, or taking the comprehensive examination must be registered for at least one semester hour during the semester in which these activities take place. Continuous enrollment or leave of absence status is not acceptable in these circumstances. Students may, however, choose to wait for a semester in which they actively registered for courses to finish Incompletes. It is necessary to register for the summer sessions only if the student is applying to graduate during the summer.

All program requirements must be completed within six years of the date of admission, whether study is full time or part time.

SCHOLARSHIP

A quality-point index of 3.00 is required for graduation. Students who receive the grade of C in more than six semester hours are subject to suspension. Students who receive a grade of F must confer with the dean before enrolling for further work.

THE THESIS

Students may elect a thesis option. The choice of the thesis subject must be approved in writing by the student's advisor and filed in the office of the dean. A statement of the School's standards for the thesis and printed copies of departmental regulations regarding the form and reproduction of the thesis are available in the office of the dean.

Payment of tuition for the thesis course entitles the candidate, during the period of registration, to the advice and direction of the member of the faculty under whom the thesis is to be written. In case a thesis is unfinished, additional time may be granted. The student must, however, be enrolled continuously in the program. If the preparation of the thesis extends beyond the additional time granted, the student must register for the entire six hours of thesis again and pay tuition as for a repeated course.

MASTER'S COMPREHENSIVE EXAMINATION

Candidates in master's programs requiring 33 semester hours must take a comprehensive examination. Candidates in programs whose basic requirements exceed 36 semester hours may waive the comprehensive examination with the approval of the academic advisor. Candidates who plan to take the examination must be registered for at least 1 semester hour in the semester it is to be taken. Candidates must file a written application in the office of the School of Education and Human Development no later than 30 days prior to the date of the examination. Comprehensive examinations are required of students in Administrative Studies, College Student Development Services, Elementary/Secondary Administration, Supervision, and all programs in Human Kinetics and Leisure Studies and Teacher Preparation and Special Education.

WORK IN OTHER ACADEMIC DEPARTMENTS

For teachers interested in developing or strengthening their academic competence, the master's program in Curriculum and Instruction encourages 12 to 15 semester hours of work in departments other than education. The program is designed to meet the need of in-service teachers for additional work in a content area to qualify for advanced certification or to improve classroom skills and may also be helpful to previously trained teachers planning to re-enter the profession. The major emphasis is upon strengthening both academic and professional competencies.

SECOND MASTER'S DEGREE

Persons seeking a second master's degree in the School of Education and Human Development must complete all core and specialization requirements and a minimum residency requirement of 24 semester hours.

THE DEGREE OF EDUCATION SPECIALIST

The program of advanced study leading to the degree of Education Specialist is for students with master's degrees in education who seek further professional preparation for specific objectives.

The program is under the supervision of the Advanced Graduate Faculty and is available in the fields of administration, adult education, counseling, curriculum and instruction, higher education, human resource development, and special education.

Admissions Requirements

The following are required for entrance to an Education Specialist program: a Master of Arts in Education and Human Development or its equivalent, two years of pertinent experience in an education or human development field, and a graduate scholastic average of at least 3.3 and an acceptable score on either the Graduate Record Examination or Miller Analogies Test. Two letters of recommendation, one from a professional supervisor and one from the most recent graduate faculty advisor, are required, along with a statement of professional goals. Each applicant must be interviewed and recommended by a faculty advisor in the major field.

Scholarship

Scholarship requirements for the degree of Education Specialist are the same as those for the degree of Master of Arts in Education and Human Development (see above).

Programs of Study and Degree Requirements

Individual programs are developed, through a plan of study worked out with a faculty advisor, to fit the candidate's skills, interests, and career goals. A minimum of 30 semester hours beyond the requirements of the degree of Master of Arts in Education and Human Development is required. At least 21 hours of this work must be taken in residence at GW. A maximum of five calendar years is allowed for completion of the program.

At least 12 of the required 30 hours must be in appropriate graduate courses in education selected from the following areas: (1) foundations and cognate study, (2) background and general principles of the field of study, and (3) an area of

specialization. A graduate-level research methods course must be included in the program if it was not completed in previous graduate work.

The Comprehensive Examination

Successful completion of a six-hour written examination and/or an oral examination, at the option of the major field advisor, is required. Candidates taking the examination must be registered for at least 1 semester hour in the semester in which the examination is taken and must file a written application in the dean's office at least 30 days prior to the date of the examination.

THE DEGREE OF DOCTOR OF EDUCATION

The School of Education and Human Development offers programs of advanced study leading to the degree of Doctor of Education. These programs, which are conducted under the supervision of the Advanced Graduate Faculty, provide major fields of study in curriculum and instruction, special education, counseling and human resource development, educational administration and policy studies, human resource development and adult education, and higher education. Supporting fields of study are available in administration, administration of higher education, adult education, college student development, counseling, curriculum, elementary education, higher education, human development, human resource development, international education, program evaluation, reading, secondary education, special education, supervision, teacher education, and tourism development and travel administration. With the approval of a student's program planning committee, course work may be taken in other departments of the University. All programs require study of interrelated areas of education and a doctoral dissertation in the major field of study.

All doctoral programs are designed to accommodate the needs of working professionals who must pursue their studies on a part-time basis. Required graduate courses, with few exceptions, are offered in the late afternoon and evening. In some programs, selected courses may be taken at off-campus locations.

Admission

The applicant must have adequate preparation for advanced study, including graduate work in fields prerequisite to his or her objective and comparable to that required for the degree of Master of Arts in Education and Human Development at this University. Students with a master's degree in a field other than education may be considered for doctoral study provided that the degree and previous experience are judged relevant by the major field program faculty.

For an application to be forwarded to the major field program faculty for consideration, an applicant must have a minimum graduate scholastic average of 3.3 and a 50th percentile score on the Miller Analogies Test or Graduate Record Examination. Under certain circumstances, the associate dean may recommend to the faculty a student who does not meet the stated criteria but who has shown exceptional promise in the chosen field. Programs often set higher admission standards, and the number of spaces available for new doctoral students is limited to the number that can be accepted.

The applicant is strongly encouraged to schedule an interview with the coordinator of doctoral programs or the Associate Dean, who will discuss the applicant's needs in relation to the School's resources, explain the required

cedures and standards, and guide the applicant through the admission process. In addition, all applicants must have an interview with faculty members in the major field. Students receiving favorable recommendations from the major field faculty are admitted to precandidacy for the degree.

International Students—Students whose native language is not English and who have not earned a bachelor's or master's degree from a regionally accredited college or university in the United States are required to take the Test of English as a Foreign Language (TOEFL). A minimum TOEFL score of 550 is required for consideration for admission.

Admitted students whose TOEFL scores range between 550 and 600 will be required to take the University's English as a Foreign Language placement test prior to their first registration. Depending on the results of this test and subsequent class performance, the student's first-year academic program may be restricted in the number and type of courses that can be taken. Students assigned English as a Foreign Language (EFL) courses should anticipate additional related tuition expenses as well as a possible extended period of time required to complete their degree program.

For those students required to take EFL courses, the School's minimum English language proficiency requirement is considered to be satisfied either by (a) successful completion of EFL 50 (*English Composition/Research Methods for International Students*) with a minimum grade of B; or (b) an evaluation by the director of English as a Foreign Language indicating that the student has achieved comparable proficiency status.

PRECANDIDACY

In the precandidacy period a minimum of nine semester hours of course work in the program, including requirements specified by the Advanced Graduate Faculty, must be completed. Full-time students must complete this work within the first 18 semester hours; part-time students must complete it within three semesters of admission to precandidacy. Application for full candidacy will then be decided on the basis of the quality of scholarship in the precandidacy period, the recommendations of instructors, a detailed plan for the balance of the program, and a qualifying examination.

Plan of Study

In general, from two to three years of full-time study beyond the master's degree in education, or the equivalent in part-time study, are required. Course work and examinations must be completed within five years, and the entire program must be completed within eight years.

Programs are individually planned. Each program is divided into two parts. The first consists of studies preparatory to taking major and supporting field comprehensive examinations and required research tool studies. The second consists of the doctoral dissertation and the final oral examination.

Upon admission to doctoral candidacy, the student is assigned to a program planning committee of three faculty members, one of whom must be from outside the major field of study. Students who have completed the comprehensive examinations must register for a minimum of 6 semester hours of Dissertation Research for two semesters and a minimum of 3 semester hours per semester thereafter, until the satisfactory completion of the final oral examination. More specific information is available in the *Doctoral Student Handbook*.

COMPREHENSIVE EXAMINATIONS

After successful completion of 9 to 18 semester hours of course work, the student must pass a three-hour qualifying examination, the content of which includes material from both the major field of study and foundations of education. Doctoral students who received an Ed.S. from this University, having consequently taken a comprehensive examination, are required only to take the field portion of the qualifying examination. Supporting field examinations are the hour written examinations; if required, they are taken before the integrative comprehensive examination. All course work, including the research tool requirement, must be successfully completed prior to taking the integrative comprehensive examination (the only exception is the Pre-Dissertation Seminar). The integrative comprehensive examination is a written 12-hour examination, six hours on each of two successive days. The candidate begins the second portion of the program after the satisfactory completion of all examinations and required research tool field. Candidates taking the examination must be registered for at least 1 semester hour in the semester it is to be taken and must file a written application in the dean's office at least 30 days prior to the date of examination.

THE DISSERTATION

A dissertation is required as evidence of ability to perform original scholarly research and to interpret and present its results.

At the beginning of the dissertation phase, the dean appoints a dissertation committee, consisting of a chairperson (usually a major field advisor) and additional faculty members. The candidate is required to submit a proposal of the dissertation to this committee, which determines its acceptability. The dissertation is completed under the guidance of the chairperson, with the advice of the other members of the dissertation committee.

No later than the date specified in the calendar, the candidate must submit to the dean three complete copies of the dissertation and of an abstract and a graphical sketch for inclusion in the announcement of the examination and reproduction by University Microfilms, Inc. Printed copies of detailed regulations regarding the form and reproduction of the dissertation, preparation of abstract, and services offered by University Microfilms, Inc., are available in the office of the dean. The successful candidate for the doctorate is required, before receiving the degree, to pay fees that are applied toward the expense of binding library copies of the dissertation, printing the Announcement of the Final Examination, and the basic service rendered by University Microfilms, Inc., and to sign a microfilm agreement.

THE FINAL EXAMINATION

When the dissertation has approval of the dissertation chairman and at least one other committee member, the candidate is recommended to the dean for the oral examination, which must be passed at least 30 days before the degree is conferred. The examination is open to the public and is conducted by a committee of the faculty, appointed by the dean, supplemented by at least two leaders from the candidate's field of study from outside the University. Candidates who successfully pass the oral examination are recommended for the degree by the faculty of the School of Education and Human Development. Three final copies of the dissertation must be submitted to the office of the dean within

month of the final oral examination and no later than one month before the degree is to be conferred.

Continuous Study and Residence

Students must be continuously enrolled in the School of Education and Human Development, unless the dean or the Advanced Graduate Faculty grants a leave of absence. Failure to register each semester of the academic year may result in lapse of candidacy. Subsequent readmission is subject to whatever new conditions and regulations have been established by the Advanced Graduate Faculty.

TEACHER CERTIFICATION CURRICULA

The School of Education and Human Development provides individually planned programs for liberal arts graduates with appropriate degrees from accredited institutions who wish to prepare for teaching. Those seeking certification, but not wishing to work for a degree, may enroll in a certification program if they meet the admission, scholarship, and personality requirements of degree candidates. The School also provides a wide range of courses of interest to teachers who wish to renew licenses.

OFF-CAMPUS DEGREE PROGRAMS

The School of Education and Human Development offers off-campus programs leading to the Master of Arts in Education and Human Development in the fields of adult education, curriculum and instruction, higher education, human resource development, early childhood special education, transitional special education, and supervision and human relations; and the Education Specialist in the fields of administration and higher education. The programs are administered through the Division of Continuing Education.



SCHOOL OF GOVERNMENT AND BUSINESS ADMINISTRATION

Dean B. Burdetsky

Associate Dean M.M. Harmon

Assistant Deans M.S. Katzman, P.B. Malone III

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Assistant Professors J.H. Beales III, D.K. Davidson (Visiting), S.G. Gold (Visiting), S.S. Hassan, G.M. Jabbour, C.B. Jacobina (Visiting), S.B. Jenkins, D.R. Kane, M.S. Klock, R.M. LeNoir, C.J. Lin, L.C. Moersen, C.C. Shepherd, F.N. Shiue (Visiting), L.G. Singleton, K.E. Smith, R. Soyer, K. Visudtibhan, M.S. Wahab (Visiting), P.R. Witmer (Visiting)

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INTRODUCTION

Organized as the School of Government in 1928, the School of Government and Business Administration has been responsible for over half a century for the professional development of individuals assuming membership and leadership roles in society. The School comprises six departments—Accountancy, Business Administration, Health Services Administration, Management Science, Public Administration, and Urban and Regional Planning. The use of a multidisciplinary approach in educational programming helps prepare both the generalist and specialist for professional careers in today's complex, organizational setting.

Purposes

The School of Government and Business Administration is dedicated to achieving excellence through the study, teaching, and research of management.

* The Dean and Associate Dean of the School are *ex officio* members of all committees.

policy in the public and private sectors, both within the United States and internationally.

Because of the growing interdependence of government and business, the School of Government and Business Administration practices a multidisciplinary approach with flexibility in educational programming in the belief that such is essential to dealing with the complexities of today's organizational society. The School offers preparation of both the generalist and the specialist for professional careers and seeks to improve the quality and character of the individual as citizen, professional, and scholar as well.

More specifically, the purposes of the School are

1. To prepare its graduates for positions in the management of complex organizations.
2. To provide a broad and fundamental education as preparation for positions carrying management and leadership responsibilities.
3. To provide specialized educational opportunities as preparation for career positions in professional disciplines or functional areas.
4. To explore in all their forms, through education and research, the content, interactions, and interdependencies of disciplines and institutions in the public and private sectors, both nationally and internationally.
5. To make available the School's resources to business, health, government, community, and other organizations in both the metropolitan area and the larger community.
6. To foster understanding and advancement of knowledge and skills in the world community through research, education, and scholarly exchange with governments, institutions, and organizations engaged in the solution of international trade and investment problems and in the management of human settlements.

Academic Status

The School of Government and Business Administration has maintained full membership in the Middle Atlantic Association of Colleges of Business Administration since 1961. It joined the Council on Graduate Education for Public Administration in 1966. In 1968, the School became a member of the American Assembly of Collegiate Schools of Business, and the undergraduate and master's programs in business administration are accredited by the Assembly. The program in health services administration is accredited by the Accrediting Commission on Education for Health Services Administration. The Master of Urban and Regional Planning degree program is recognized by the American Planning Association. The Master of Association Management degree program is recognized by the American Society of Association Executives. The School is a member of the National Association of Schools of Public Affairs and Administration, and its Master of Public Administration degree program is accredited by the NASPAA Commission on Peer Review and Accreditation.

Fellowships

The School of Government and Business Administration has several undergraduate and graduate fellowships available to its students, including the Aramkhan Research Fellowships in International Business, the Business Administration Departmental Fellowships, the Government Intern Scholarship Program, Health Services Administration Fellowships, Ernst and Whinney Grants to Doctoral Candidates in Accounting, the National Association of Purchasing Management Fellowship, the Wolcott Foundation Scholarships, the Minority Students

Fellowships, the Hyundai Foundation Scholarships, the Public Administration Faculty-Alumni Scholarships, Government Career Development Scholarships and the George Washington University Fellowship for Ph.D. Studies in Government and Business.

REGULATIONS

See Admissions; Registration; Fees and Financial Regulations; Regulations

Attendance

A student may not attend classes until registration is completed. The student is held responsible for all of the work of the courses in which registered, and absences must be excused by the instructor in charge before provision is made for the student to make up the work missed. A student suspended for any cause may not attend classes at GWU during the period of suspension.

Withdrawal

Withdrawal from a course or from the University without academic penalty is permitted during the first five weeks after registration for the fall or spring semester. Withdrawal after this period is permitted only in unusual circumstances and requires certification by the instructors of courses for which the student is registered that the student is doing passing work (see Withdrawal under Regulations).

Adding Courses

Courses may not be added after the first two weeks of classes in any semester.

Independent Study Plan

A junior, senior, or graduate student of demonstrated capacity, with a special interest in the subject matter of a course, may be permitted to undertake study under the personal direction of an instructor, in accordance with the rules of the appropriate department. Credit under this plan is limited to the specific credit hours normally allowed when a course is taken on a class basis.

Use of Correct English

Any student whose written or spoken English in any course is unsatisfactory may be reported by the instructor to the dean. The dean may assign supplementary work, without academic credit, varying in amount with the needs of the student. If the work prescribed is equivalent to a course, the regular tuition is charged. The granting of a degree may be delayed for failure to make up a deficiency in English to the satisfaction of the dean.

Students from Other Schools Within the University

Degree candidates from other schools of the University cannot register for more than 18 hours of credit in courses from the Bachelor of Accountancy or Bachelor of Business Administration degree programs or 12 hours of credit from the Master of Accountancy, Master of Taxation, or Master of Business Administration degree programs. Typically, a maximum of 6 hours of credit is permitted in courses from the Bachelor of Accountancy program, unless an advisor recommends an additional 3 credit hours.

Common Body of Knowledge

Programs leading to the degrees of Bachelor of Accountancy, Bachelor of Business Administration, Master of Accountancy, Master of Taxation, and Master of Business Administration include the equivalent of at least one year of work in the following areas:

1. A background of the concepts, processes, and institutions in the production and marketing of goods and services and the financing of the business enterprise or other forms of organization.
2. A background of the economic and legal environment as it pertains to profit and nonprofit organizations, along with ethical considerations and social and political influences as they affect such organizations.
3. A basic understanding of the concepts and applications of accounting, quantitative methods, and information systems.
4. A study of organization theory and behavior and interpersonal communications.
5. A study of administrative processes under conditions of uncertainty, including integrating analysis and policy determination at the overall management level.

THE BACHELOR'S DEGREES

The School offers programs leading to the degrees of Bachelor of Accountancy and Bachelor of Business Administration with fields of instruction in business economics and public policy; finance; human resources management; information systems; international business; logistics, operations, and materials management; and marketing.

ADMISSION REQUIREMENTS

Good character and an academic background appropriate for the program of studies contemplated are required.

- Requirements for admission to the freshman class include
1. An acceptable certificate of graduation from a U.S. secondary school, showing at least 15 units,* which must include four years of English; at least two years of one foreign language; two years of science, preferably with laboratory instruction; two years of social studies, one of which must be American history; and one year of college-preparatory mathematics beyond introductory algebra.
- International students may be considered for admission with an equivalent foreign secondary certificate. A student presenting a U.S. secondary certificate or foreign equivalent must also show competence in the English language by scoring not less than 550 on the first taking of the TOEFL or 600 on the second taking. International students may be required to take an English proficiency examination and may be required to enroll in a full-time program in English before beginning studies in a degree program.
2. Standardized test scores submitted on the Scholastic Aptitude Test, or on the American College Testing battery. In addition, it is strongly recommended that scores on College Board Achievement Tests in English composition and mathematics be submitted. Although no minimum scores are prescribed, test

*A unit represents a year's study in a secondary school subject, including in the aggregate not less than 120 sixty-minute periods, or the equivalent, of prepared classroom work.

results are an important factor in determining admission eligibility. Students with SAT verbal scores below 500 and SAT math scores below 550, or with composite scores below 25, must show superior performance in their secondary school programs for favorable consideration for admission.

Criteria for admission include a strong high school record and a satisfactory performance on the College Board examinations. It is recommended that the examinations be taken in December or January. Scores on tests taken in the previous year may be submitted. Arrangements for tests are the responsibility of the applicant and should be made with the College Board Admissions Testing Program, CN 6200, Princeton, N.J. 08541-6200, not less than one month before the date of the test. In applying for the test, the applicant should specify that scores be sent to the Office of Admissions, George Washington University, Washington, D.C. 20052.

American College Testing battery scores are also accepted. The applicant should request that these scores be sent to the Office of Admissions directly to the American College Testing Program, P.O. Box 168, Iowa City, Iowa 52243. It is recommended that the applicant take the tests in October of the senior year.

Admission With Advanced Standing

Requirements for admission of students transferring from other regionally accredited colleges and universities and from other divisions of this University are as follows.

Any newly admitted student who plans to register in the School of Commerce and Business Administration for the first time and whose native language is not English must take an English as a Foreign Language placement test. A student failing to pass this examination will be required to complete successfully the appropriate English composition course or courses, and the assignment of credit for any previously completed courses at another institution will be pending completion of this requirement.

Students who have accumulated fewer than 30 semester hours of transferable relevant academic credit must have a minimum 2.5 cumulative grade index to meet freshman admission standards. Students who have accumulated 30 or more semester hours of transferable credit must have a cumulative grade index below 2.5. Advanced standing may be awarded for properly certified courses taken at regionally accredited colleges or universities for which the student received a grade of C or better, and may be applied toward a degree, provided the credit is comparable to the curricular requirements of the degree.

In no case will more than 60 semester hours of advanced standing be granted for course work completed at regionally accredited community or junior colleges. These 60 hours may include credit granted for completed courses equivalent to BAd 104 and Mgt 119. Other courses (one course per area with a maximum of three courses), comparable to this School's courses numbered 101-200, taken at an accredited community or junior college with an average grade of C or better, may be accepted to waive certain required courses. A waiver of a required course does not entitle the student to any semester-hour credit and does not reduce the total number of credits that must be completed to earn the degree.

Although a grade of D is not acceptable for transfer of credit, the course may be used to waive a comparable curricular requirement. Credits earned with a grade of D may not, however, be counted toward the total number of semester hours required for the degree. Any course completed with a grade of D or better may be repeated for the purpose of earning degree credit. An exception to this rule

the freshman English composition requirement, Math 31 or 51 (or their equivalents), and all accountancy courses. Any student earning a D in such courses at another institution may be required to repeat the courses at this University.

All credit will be evaluated by the School, which reserves the right to refuse credit for transfer in whole or in part or to allow credit provisionally.

It is the responsibility of the student to have an official transcript sent directly from each institution formerly attended to the Office of Admissions, Rice Hall, George Washington University, Washington, D.C. 20052.

A student wishing to transfer into the School from another division of this University must submit a formal application of transfer to the Office of Admissions in Rice Hall.

Courses taken in another degree-granting division of this University may be applied toward a degree in this School, provided they are comparable to the curricular requirements of the degree. A maximum of 90 semester hours of such credit may be applied toward a degree program in this School. However, in no case will credit for more than 45 semester hours of undergraduate course work taken at this University in nondegree status be allowed toward meeting degree requirements in this School.

Readmission

A student who withdraws, is suspended, or is otherwise absent without authorization from the University for one semester or more must make formal application for readmission. If readmitted, the student is subject to the rules and regulations in force at the time of return. If the student has attended one or more regionally accredited colleges or universities during absence from the University, complete official transcripts must be sent to the Office of Admissions from each institution attended.

The application fee is waived for a student applying for readmission who was registered as a degree candidate at the time of last registration at the University and has not since registered at another college or university.

DEGREE REQUIREMENTS

Academic Work Load

A full-time student not on probation may not ordinarily take more than 15 semester hours. A student employed more than 20 hours a week, who is not on probation, may not take more than nine semester hours.

A full-time student whose overall quality-point index is 3.50 or higher may take up to 18 semester hours. A student employed more than 20 hours a week, whose index is 3.50 or higher, may take up to 12 semester hours.

A student who accepts employment after registration or at any time during a semester must report immediately to the dean so that the program may be adjusted if necessary.

Exceptions to these rules require the approval of the dean.

An undergraduate student on probation may take no more than 12 semester hours of course work.

Scholarship Requirements

A student must have the following to graduate: (1) an overall quality-point index of at least 2.00 and (2) a quality-point index of at least 2.00 in all required 100-level B.B.A. or B.Accy. courses and field-of-instruction-related courses. All

courses taken at George Washington University that are acceptable for toward the bachelor's degrees are to be included in the overall quality index calculation. Elective courses in or out of the School of Government and Business Administration cannot be used as substitutes for required courses in the calculation of the field quality-point index.

DEAN'S HONOR LIST

The names of students who achieve a quality-point index of 3.50 or higher are placed on the Dean's Honor List for that semester. Appearance on the list is limited to (1) full-time students registered for a minimum of 12 semester hours (provided that the 12 hours are taken for a grade) and (2) part-time students registered for a minimum of 12 semester hours over a period of two consecutive semesters, which may include a summer term.

INCOMPLETE/AUTHORIZED WITHDRAWAL

Conditions under which the grades of I (Incomplete) or W (Authorized Withdrawal) may be assigned are described under Regulations.

The grade of I must be changed by a date agreed on by the instructor and student but no later than the last day of the examination period for the fall or spring semester immediately following the semester or summer session in which the grade of I is assigned. An Incomplete that is not changed within this period automatically becomes an F. In cases of well-documented extenuating circumstances, an instructor and a student may jointly petition the dean for additional time in which to complete the work of the course. Such petitions should be submitted within the same period. The grade of I cannot be changed by registering for the course here or by taking its equivalent elsewhere.

The grade of Z (Unauthorized Withdrawal) is assigned when students are registered for a course they have not attended and in which they have done no substantial graded work. The grade of Z is not calculated in the overall and field quality-point indexes.

PROBATION

A student whose quality-point index (either overall or in the major) falls below 2.00 after completing a minimum of 12 semester hours of study will be placed on probation. This probation extends over the period in which the student attends another 12 semester hours of work, which may include remedial studies as prescribed.

SUSPENSION

A student whose quality-point index (either overall or in the major) is below 2.00 in any semester or remains below 2.00 at the end of the probationary period will be suspended. A student suspended for poor scholarship may petition for readmission after the end of the fall or spring semester following the semester of suspension. To be considered for readmission, the student must submit evidence of remedial activity performed during the suspension period and evidence of renewed potential ability to do college-level work. No advanced standing will be assigned for academic work completed while the student is suspended. The student may petition the Dean for consideration of advanced standing after completing a minimum of 12 semester hours of course work here and achieving a cumulative and field index of at least 2.00.

A student readmitted after suspension is on probation and must maintain a current quality-point index of at least 2.50 for each 12 semester hours of work undertaken until the cumulative and field index are at least 2.00. In no case will the probationary period after readmission exceed 24 semester hours of study. A student suspended twice for poor scholarship will not be readmitted.

PASS/NO PASS OPTION

A junior or senior student who has a cumulative quality-point index of 2.50 or better may, with the approval of the advisor and the dean, take one course a semester and receive a grade of P, Pass, or NP, No Pass, which will be recorded on the student's transcript but will not be reflected in the quality-point index. No student will be allowed to take more than four pass/no pass courses. A student must sign up for such an option at registration. Under no circumstances may a student change from pass/no pass status to graded status, or vice versa, after the last date to add a course (except in the case of a prerequisite to Math 51). Required courses may not be taken on the pass/no pass basis. A transfer student may not choose this option until the second semester of enrollment in the University.

GRADE OF F

Should an undergraduate student earn a grade of F in a required course, that course must be repeated for a passing grade at George Washington University. A grade of F earned in a required or elective course remains a part of the student's record and is calculated into the quality-point index.

Residence

A minimum of 30 semester hours, including at least 12 semester hours in required B.B.A. or B.Accy. courses, must be completed while registered in the School of Government and Business Administration. This requirement applies to students transferring within the University as well as to students transferring from other institutions. Unless special permission is granted by the dean to pursue work elsewhere, the work of the senior or final year must be completed in the School of Government and Business Administration.

Correspondence and Home-Study Courses

Credit for correspondence or home-study courses is not acceptable and cannot be applied toward a degree in this School.

Earning Credit or Waiving Requirements by Examination

A student may earn credit up to a maximum of 30 semester hours or waive curricular requirements by performing satisfactorily on the following tests:

College-Level Examination Program (CLEP)—See Admissions for general information on the CLEP tests. CLEP tests in Introduction to Business, Commercial Law, and Data Processing are limited to 3 credits each of advanced standing. CLEP tests in college algebra/trigonometry, English composition, and more advanced courses in accounting and business administration are not accepted for advanced standing. Matriculated students who wish to receive credit for CLEP tests in General and Subject Examinations must receive prior approval, through petition, from their advisor and the dean.

Advanced Placement Tests and Achievement Tests—See Admissions.

Examinations for Waiving Curriculum Requirements—The School of Government and Business Administration does not administer waiver examinations.

However, certain arts and sciences courses may be waived, and in some instances credit may be assigned, by satisfactorily passing a special departmental examination approved by the department or designated advisor. Requests to take the examination should be made to the designated advisor and the required fee paid at the Office of the Cashier before the date set for the examination. See page 73 for more information.

Cooperative Education Program

The School of Government and Business Administration has entered into several Cooperative Education agreements with U.S. government agencies in the Washington, D.C., area. Students who are selected to participate in these programs generally work in paid employment for one semester and attend school the next semester. Since these programs are currently designed for juniors and seniors, program length is for one- and two-year periods. The areas of work are closely integrated with the student's field of instruction (e.g., marketing, finance, etc.). Interested students should contact the Director of the School's Office of Experiential Learning and Internships or the Chairman of the Department of Business Administration for specific guidance and details.

Study Abroad Programs

Study abroad programs for the academic year are currently available in England, France, Germany, Japan, China, and Peru. Students who wish to study in countries not mentioned here should check with the office of the dean. Credits earned with acceptable grades are transferable toward the appropriate degree at Georgetown University, provided there is no duplication of work done previously. All programs of study abroad must be approved on the required forms by the appropriate faculty and administrative personnel before departure. Information may be obtained from the Study Abroad Office, Stuart Hall, Room 101.

Study abroad is available at varying locations during the summer. Information on summer programs abroad is available in the GWU Summer Sessions announcement and through the Division of Continuing Education.

THE BACHELOR OF ACCOUNTANCY

The principal objective of the Bachelor of Accountancy degree is preparation for a professional career in accounting. Professional preparation requires special attention in the acquisition of accounting knowledge as well as a general education in English, humanities, social sciences, mathematics, and sciences. A comprehensive body of knowledge in business administration is taken, with emphasis on the accounting program. An additional objective is the preparation of students for the fifth-year or Master of Accountancy program that is intended to meet the academic needs of students seeking professional accounting careers in the public or private sector, which currently demand high entry-level academic achievement.

One hundred twenty semester hours are required for graduation. To be accepted in the Bachelor of Accountancy program a cumulative quality point average of 2.50 or higher is required at the start of the junior year. Courses must be taken in accordance with the academic status of the student (i.e., freshman, sophomore, junior, senior) and the course prerequisites. Math 3, 6, 9, and 10 may be used for credit toward the Bachelor of Accountancy.

Curriculum for the Pre-Accountancy Program

FRESHMAN YEAR

	Semester Hours
Economics: Econ 11-12	6
English: Engl 9 or 10, 11	6
Mathematics: Math 31-32 or 51-52	6
Science: BiSc 3-4; Chem 3-4; Geol 1-2; or Phys 9-10	6
Social Sciences: PSc 2; Soc 1	6
Total	30

SOPHOMORE YEAR

Accountancy: Accy 51-52	6
Economics: Econ 121	3
Social Sciences: Psyc 1 and 8; Phil 45 or 51 and 135	12
Statistics: Stat 51	3
Communication: Comm 111	3
Computer Studies: Mgt 58	3
Total	30

Curriculum for the Accountancy Program

JUNIOR YEAR

Accountancy: Accy 101, 121, 151, 152 or 162, 161, 191	18
Business Administration: BAd 120, 140, 191	9
English: Engl 102	3
Total	30

SENIOR YEAR

Accountancy: Accy 132, 171, 181	9
Business Administration: BAd 101; BAd 110 or Mgt 107; BAd 160 or 166 or 171; BAd 188, 197	15
Statistics: Stat 103	3
Elective: Chosen from Columbian College or the School of Government and Business Administration	3
Total	30

THE BACHELOR OF BUSINESS ADMINISTRATION

The hundred twenty semester hours of course work are required for graduation. To be recommended by the Faculty for graduation, candidates are required to complete, in addition to the appropriate freshman and sophomore work, a minimum of 60 semester hours of course work in the junior and senior years selected from one of the fields of instruction offered by the School. Courses must be taken in accordance with the academic status of the student (i.e., freshman, sophomore, junior, senior) and the course prerequisites. The field of instruction must be selected no later than the first semester of the junior year. Electives in the junior and senior years are restricted to appropriate 100-level courses chosen in consultation with the advisor. Math 3, 6, 9, and 10 may not be used for credit toward the B.B.A. degree. The second semester of a first-year language course that was previously studied in high school may be taken as a sophomore elective, provided the student places (via test) at this level.

Curriculum for the First Two Years for All Bachelor of Business Administration Students

FRESHMAN YEAR

Mathematics:	Math 31-32 or 51-52.....
Economics:	Econ 11-12
English:	Engl 9 or 10, 11.....
Science:	BiSc 3-4 or 11-12; Chem 3-4 or 11-12; Geol 1-2; or Phys 1-2 or 9-10
Social Sciences:	AmCv 71-72; Anth 1-2; Geog 1, 2, or 3; Hist 39-40 or 71-72; PSc 1, 2; or Soc 1, 2.....
	Total

SOPHOMORE YEAR

Accountancy:	Accy 51-52.....
Business Administration:	BAd 51.....
Humanities:	Art 31-32 or 71-72; Chin 3-4; Clas 71-72; Engl 51-52, 61-62, or 71-72; Fren 2-3; Ger 3-4, 9-10, or 51-52; Ital 2-3; Mus 3, 4; Phil 45, 51, 52, or 71; Rel 1, 2, 9, 10, or 23; Slav 3-4, 5-6, or 91-92; Span 2-3; Comm 1, 111, or 112; or SpHr 11.....
Computer Studies:	Mgt 58
Social Sciences:	Psyc 1, 8
Elective:	Courses other than accountancy, business administra- tion, management science, or economics
Statistics:	Stat 51 or 53
	Total

Curriculum for B.B.A. Fields of Instruction

The academic programs comprising these fields of instruction are designed to provide the broad foundation required for eventual leadership in either business or governmental administration. Each field of instruction consists of 33 semester hours of required general business administration courses and 15 hours of required field-related courses. Twelve hours of electives, normally advanced courses in liberal arts subjects, are required in each field but are not included in the calculation of the field quality-point index.

JUNIOR YEAR

Required General B.B.A. Courses:	BAd 110, 120, 140, 191; Econ 121; one course selected in consultation with the advisor from Accy 101, 111, 121, 161.....
Field-Related Courses:	Six semester hours selected from among courses in the chosen field of instruction.....
Elective:	To be selected in consultation with the advisor
	Total

SENIOR YEAR

Required General

B.B.A. Courses:

BAd 101, 104, 188, 197; Psyc 144 or Mgt 107 (students in marketing substitute BAd 142) 15

Field-Related Courses:

Nine semester hours selected from among courses in the chosen field of instruction 9

Elective:

To be selected in consultation with the advisor 6

Total 30

The field of instruction must be selected no later than the first semester of the junior year. The student should contact the office of Academic Program Scheduling to declare a field of instruction and receive the name of the designated faculty advisor. Fields of instruction are described below.

1. Business Economics and Public Policy

This field is directed toward developing understanding and skills applicable to a wide variety of positions in business and government. Students will supplement basic course work in business and economics with additional courses in economics, political science, and government-business relations. The social, legal, political, and economic environment of business and the micro- and macroeconomic foundations of governmental programs and regulatory activity will be studied to establish a basis for developing and evaluating effective business responses. The program is concerned with the continuing business-government dialogue on effective and equitable relations between the two sectors of the economy.

The following courses provide a basic academic foundation in the field of business economics and public policy (an asterisk indicates that the course is required for the field of instruction): BAd 117, 171; Econ 101, * 102, * 136, 158, 159, 161, 162, 181-82; PSc 116, 117, 118; PAd 125.

2. Finance

This field helps students develop the skills required for entry-level employment in corporations, financial institutions, and the public sector. Corporations employ entry-level finance specialists for cash, credit, or inventory analysis or management and for work in bank relations and capital budgeting. Financial institutions offer opportunities for entry-level finance specialists to analyze specific securities and to assist in loan analysis. The graduate B.B.A. degree with a finance field also provides an excellent foundation for the undergraduate academic programs, especially the study of law.

The following courses provide a basic academic foundation in the field of finance (an asterisk indicates that the course is required for the field of instruction): Accy 111 or 121; BAd 123, * 124, * 130, 132 or 133, 135, 171.

3. Human Resources Management

This field is concerned with all aspects of the employment of human resources in business organizations. Entry-level career opportunities are in such fields as personnel management, employee relations, collective bargaining, and manpower utilization. Since the field focuses on the management of human resources in a general sense, it also prepares the student for responsibilities associated with general management and leadership.

The following courses provide a basic academic foundation in the field of personnel management (an asterisk indicates that the course is required for the field of instruction): BAd 115, * 117*, Comm 121; Jour 145; Psyc 129, 131.

4. Information Systems

Students taking this field are recruited by organizations in both the public and private sectors for positions as programmer/analysts and systems designers. These entry-level positions lead to careers in the marketing of computer hardware and software, systems consulting, and management. Medium to large organizations are currently expanding their reliance on computer systems, and with the development of inexpensive but powerful mini- and microcomputers, thousands of smaller organizations are finding computers to be cost effective as well.

Students will supplement the basic skills learned in the B.B.A. curriculum with courses planned to provide a firm foundation in the use of the computer as a tool in solving information problems in organizations. These courses relate ongoing, real-world applications of computers to the functional areas of business and government organizations.

The following courses provide a basic academic foundation in the field of information systems (an asterisk indicates that the course is required for the field of instruction): 157, 158; Mgt 119,* 120,* 121,* 122*; Stat 130, 131. See the School of Engineering and Applied Science Bulletin for descriptions of computer science courses.

5. International Business

This field provides the basic academic foundations for entry-level positions in international business, particularly in multinational corporations, international banks, and government agencies. Such organizations include the Departments of Commerce, State, and Treasury, plus international institutions such as the Export-Import Bank, World Bank, and Overseas Private Investment Corporation. Students in this field are encouraged to include two years of a modern foreign language in their preparatory background.

The following courses provide a basic academic foundation in the field of international business (an asterisk indicates that the course is required for the field of instruction): 123, 135, 143, 148, 150, 160,* 166,* 168, 171,* 173, 175, 182; Econ 181; T&T 104.

6. Logistics, Operations, and Materials Management

Students in this field will become equipped to contribute to the national effort to achieve economy, efficiency, and innovative competitive behavior for the American economy. Many positions in industry and government that deal with material and service requirements, rates of consumption, acquisition, mobility, maintenance, and quality assurance require the skills learned in this field. The field is designed to prepare students for entry-level positions performing the activities necessary to plan and control the flow of materials through the productive system and the external sourcing of required goods and services.

Graduates of the program will be prepared for career positions in government, industry, and consulting firms in such functional management areas as contract administration, purchasing, materials and logistics, maintenance, quality assurance, planning, requirements, project administration, price analysis, and contract administration or in supervisory work.

The following courses provide the foundation for effective functioning in the field of logistics, operations, and materials management (an asterisk indicates that the course is required for the field of instruction): BAd 117, 143, 180,* 181, 182, 183,* 184*; Mgt 185.

7. Marketing

This field has the objectives of (1) developing a conceptual understanding of a company and changing environment and its effects on marketing activities and institutions, (2) understanding the dynamics of buyer behavior, (3) providing the skills to analyze different market segments, and cost-volume-profit relationships of marketing programs, (4) developing abilities in written and verbal communications, and (5) developing skills in forecasting and implementing comprehensive marketing plans.

Typical entry-level positions for students with a marketing field are advertising executives, marketing research project managers, retail assistant buyers, and sales representatives for consumer or industrial products firms. Students with marketing backgrounds also have obtained positions in physical distribution, public relations, wholesaling, and a variety of governmental and nonprofit organizations.

The following courses provide a basic academic foundation in the field of marketing (please note that BAD 142 cannot be used as a field of instruction course; an asterisk indicates that the course is required for the field of instruction): BAD 143, * 148, 149, 150, * 152, 159, * 160, 166, 180, 182, 183; Jour 145; Mgt 119; Stat 105.

Secondary Field of Study

A secondary field of study in business administration is available in the School of Government and Business Administration. See the brochure *Secondary Fields of Study*, available in the Office of Academic Program Scheduling.

THE MASTER'S DEGREES

ENTRANCE REQUIREMENTS

To be considered for admission, applicants must present a bachelor's degree from a regionally accredited college or university. Application is made directly through the Office of Enrollment Development and Admissions, School of Government and Business Administration. Admission to master's programs is highly competitive. Previous academic history, performance on the applicable entrance examination, letters of reference, motivation and aptitude to do graduate-level work, and professional experience are all taken into consideration.

Applicants for admission to programs leading to the degrees of Master of Accountancy, Master of Taxation, and Master of Business Administration must submit scores on the Graduate Management Admission Test; applicants for admission to programs leading to the degrees of Master of Health Services Administration and Master of Urban and Regional Planning must submit scores on the Graduate Management Admission Test or the Graduate Record Examination; applicants for admission to programs leading to the degree of Master of Public Administration, Master of Association Management, and Master of Science in Information Systems Technology must submit scores on the Graduate Record Examination. It is the responsibility of the applicant to make arrangements for the required test with the Educational Testing Service, Princeton, N.J. Correspondence concerning the Graduate Management Admission Test should be addressed to Box 966; concerning the Graduate Record Examination, Box 955. Test scores that are more than five years old are not accepted for admissions review.

International Students—Students whose native language is not English and who have not earned a bachelor's or master's degree from a regionally accredited college or university in the United States are required to take the Test of English as a Foreign Language (TOEFL). A minimum TOEFL score of 550 is required for consideration for admission.

Admitted students whose TOEFL scores range between 550 and 600 will be required to take the University's English as a Foreign Language placement test prior to their first registration. Depending on the results of this test and subsequent class performance, the student's first-year academic program may be restricted in the number and type of courses that can be taken. Students assigned as English as a Foreign Language (EFL) courses should anticipate additional related tuition expenses as well as a possible extended period of time required to complete their degree program.

For those students required to take EFL courses, the School's minimum English language proficiency requirement is considered to be satisfied either by successful completion of EFL 50 (*English Composition/Research Methods for International Students*) with a minimum grade of B; or (b) an evaluation by the

Director of English for International Students indicating that the student achieved comparable proficiency status.

Transfer Within the School—Currently enrolled students wishing to transfer from one graduate degree program and/or field of instruction to another within the School must complete an Application for Transfer through the Office of Enrollment Development and Admissions. Applicants for transfer are subject to the requirements in effect at the time of transfer.

GENERAL REQUIREMENTS

All students must complete the prescribed minimum number of semester hours of graduate course work. A maximum of one-quarter of the semester hours of graduate course work required beyond First-Level (Common Body of Knowledge) or other required courses may be approved for transfer to the School of Government and Business Administration from the Division of Continuing Education, another degree-granting division of this University, or another regionally accredited college or university under the following conditions: The course work must be approved as part of the student's program of studies; it must not have been applied to the completion of requirements for another degree; it must be at the graduate level; it must have been taken within the two years prior to acceptance into the program; and the student must have received a grade of B or better. Action must be approved by a petition to the designated faculty advisor and dean. A transcript and description of the course work must be on file before the petition can be considered. Should advanced standing be granted, the credit will be counted; however, only grades earned in SGBA courses in the Department of Public Administration, Health Services Administration, and Urban and Regional Planning while in nondegree status will be used in calculating the cumulative quality-point index.

Extended programs, including undergraduate or graduate background courses, may be assigned for an applicant whose undergraduate degree was in a field other than the graduate program the student wishes to follow or whose undergraduate record indicates a weakness in required background courses.

Master's degrees are awarded by vote of the Faculty on completion of required course work, completion of an acceptable thesis (if one is elected or required) or the equivalent work, and the passing of the Master's Comprehensive Examination if required in the chosen degree or field of instruction.

Second-group courses (numbered 101–199) may be counted toward the master's degree only when registration for graduate credit has been approved by petition at the time of registration by the dean and the designated faculty advisor. No work counted toward a bachelor's degree may be counted toward a master's degree. However, a student who has completed the equivalent of a Common Body of Knowledge course with a grade of C or better as part of the bachelor's degree program may request by petition a waiver of that course at the master's level. A grade of C earned in Econ 217 and 218 at GW while in degree or nondegree status is sufficient to waive that portion of the Common Body of Knowledge requirement.

Full-time students are expected to register for a minimum of 9 to a maximum of 12 semester hours each semester. A graduate student who is employed more than 20 hours a week may not take more than 6 semester hours. All work for a master's degree must be completed in five years, unless an extension of time is granted by the dean.

Students who expect to continue studies for a doctoral degree after receiving the master's degree should ask for assistance in planning their programs of study.

No credit is granted for work done in absentia or without formal instruction, except for hospital residency, supervised field experience, independent study, and the thesis, which may be completed in absentia with the permission of the department, designated faculty advisor, or committee concerned.

MASTER'S COMPREHENSIVE EXAMINATION

Written Master's Comprehensive Examinations are required only in the Master of Science in Information Systems and Master of Urban and Regional Planning programs. Degree candidates should consult designated faculty advisors about examinations required and material to be covered. In writing the examinations, students are expected to demonstrate what has been learned in course work and from the literature of the field. The examinations normally require four to eight hours. Sections broadly cover the various fields that the candidate has selected. Examinations are generally scheduled in the fall and spring semesters and should be taken during the last semester of course registration or shortly after completion of prescribed course work.

A written application is filed with the department supervising the student's field of study at the time of registration for the semester in which the examination is to be taken. Before applying, the student must have completed all courses in the program or be enrolled in the last semester and must have achieved a 3.00 (B) average. After applying for the examination, a candidate may withdraw only by written notice to the department chairman.

A candidate who fails the examination should consult with the designated advisor about a subsequent course of action.

SCHOLARSHIP REQUIREMENTS

Grades for graduate work are A, Excellent; B, Good; C, Minimum Pass; F, Fail; I, Incomplete; IP, Progress; CR, Credit; W, Authorized Withdrawal; and Z, Unauthorized Withdrawal.

An average of B or better is required for the master's degree. The grade of C is not considered as failing but must be balanced by a grade of A in a graduate course of equal status. A minimum quality-point index of 3.00 is required for award of a graduate degree. All graduate courses and undergraduate courses taken for graduate credit after matriculation as a degree candidate (except those audited or taken for the grade of CR) will be used in the calculation of the quality-point index.

A student whose quality-point index falls below 3.00 after completing a minimum of 12 semester hours will be placed on probation. This probation extends through the period in which the student next attempts 12 semester hours of work, including prescribed courses. During this period the student's performance will be monitored to determine suitability for continued study. A student who is subject to probation for a second time is automatically suspended.

A master's degree candidate who receives a grade of F is required to present a case, for consideration by the dean, as to why continued study should be permitted.

A master's degree candidate given the grade of F in a required course, and permitted to continue in graduate studies, must repeat the course and achieve at least the grade of B. (Such a repeat does not expunge the grade of F, which remains part of the student's record.) Should this level of performance not be attained, the student will be denied further registration as a degree candidate.

Suspension

A graduate student who does not meet the conditions of probation (see) will be suspended. A student who is suspended or withdraws under the conditions may apply for readmission after the lapse of one semester. To be readmitted the student must submit evidence that indicates academic success. A student so readmitted will continue on academic probation and must achieve a minimum quality-point index of 3.50 in the next 12 semester hours of graduate study. Should the student fail to achieve this minimum quality-point index, a second suspension will result and subsequent readmission will be denied.

Incomplete/Withdrawal

Conditions under which the grades of I (Incomplete), W (Authorized Withdrawal), or Z (Unauthorized Withdrawal) may be assigned are described in the Regulations.

The grade of I must be changed by a date agreed on by the instructor and the student but no later than the last day of the examination period for the fall or spring semester immediately following the semester or summer session in which the grade of I is assigned. An Incomplete that is not changed within this period automatically becomes an F. In cases of well-documented extenuating circumstances, an instructor and a student may jointly petition the dean for additional time in which to complete the work of the course. Such petitions should be submitted within the same period. The grade of I cannot be changed by registering for the course here or by taking its equivalent elsewhere.

Thesis

Students contemplating doctoral study are strongly urged to include the thesis as an elective in their master's program. The thesis subject should be selected as early as possible to permit effective integration with the course work.

The subject must be approved by the professor in charge of the student's thesis. The thesis in its final form must have the approval of the professor in charge and must be presented to the dean by the student no later than the date announced in the calendar. Printed copies of detailed regulations regarding the format and reproduction of the thesis are available in the Office of the Dean.

Payment of tuition for the thesis entitles the candidate, during the semester in which registered for thesis seminar (299) and/or thesis research (300), to the advice and direction of the member of the faculty under whom the thesis is written. In case a thesis is unfinished, additional time is granted. The student must, however, be enrolled continuously in the program. If the preparation of the thesis extends more than three semesters beyond the date registered for thesis research, the student must register for the entire required hours of thesis and pay additional tuition.

MASTER OF ACCOUNTANCY

The Master of Accountancy degree is designed to prepare students for professional careers in accounting either in the public or private sector. A primary objective of the program is the student's attainment of professional certification. The Master of Accountancy is recognized as the necessary fifth year of education in a professional accounting program, and as such, it is superimposed on the Common Body of Knowledge in accounting and business subjects. The Common Body of Knowledge is ordinarily attained by the completion of a bachelor's

degree in accounting or business from a regionally accredited institution of higher education.

The program consists of 60 semester hours of course work, of which 27 may be waived if comparable study has been completed prior to admission. Six semester hours of course work of the minimum program of 33 hours may be awarded as advanced standing.

Students should verify state regulations concerning the Certified Public Accountant Examination for the state in which they plan to practice.

The program of study consists of two levels.

First Level: Common Body of Knowledge Courses (30 semester hours)

Accy 201, 202, 211, 297; BAd 220, 240; Econ 217; Mgt 205, 218, 270
This set of courses must be completed prior to enrollment in Second-Level courses, except Accy 297, which must be taken in the last semester of the program. All of these course requirements, except Accy 297, may be satisfied by evidence of successful completion of comparable work at other regionally accredited institutions. First-Level courses may not be taken to satisfy Second-Level requirements or electives.

Second Level

Accy 221, 225, 251, 261, 275, 282; one course chosen from Accy 262, 263, or 264; and three graduate-level courses chosen from accountancy with advisor approval. However, no more than three taxation courses may be included in the program.

MASTER OF ASSOCIATION MANAGEMENT

The Master of Association Management prepares students to undertake or advance in careers in association management. It is also for practitioners who already work with nonprofit associations of various kinds—trade, public interest, membership, and special interest associations; scientific, technical, and learned societies; trade unions; political action committees; religious and fraternal organizations; foundations; and local ad hoc groups.

The 42-semester-hour program is interdisciplinary, with four academic departments participating in it—Public Administration, Business Administration, Management Science, and Accountancy. The program consists of a ten-course core, three other required courses, and an elective course.

Required Courses

Core Courses (30 semester hours): AM 270, 271, 272, 273, 274, 275, 276, 277, 279; Ad 295, 296.

Any two of the following courses (6 semester hours): PAd 212, 213, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225.

In addition, any one of the following courses (3 semester hours): PAd 223, 224; Mgt 210, 212, 213; BAd 210.

Elective (3 semester hours)

With the approval of the advisor, the student may satisfy this requirement by choosing any graduate-level course either from the above offerings or from other courses within the University.

Substantive Areas

Courses comprising this degree cover the six substantive areas described

MARKETING STRATEGIES AND REPRESENTATION

This area emphasizes the relationship between association members and managers and the means of conveying the association point of view to legislators, administrators, and the public at large. The association is viewed as the central focal point through which various constituent interests are articulated. Principal courses are AM 271 and either AM 273 or 274.

COMPARATIVE INSTITUTIONS

Washington-based associations provide a link between association members and government. This area focuses on comparisons among the various types of associations that comprise the Washington environment and their relationships, interactions, and competition. The courses in this area are AM 270 and courses chosen from PAd 212, 213, 215, 216, 242, and 245.

COMMUNICATIONS, MEDIA, AND INFORMATION SYSTEMS

Communication is a vital factor in modern management and is particularly important in the management of associations. The focus in this area is on the elements of interpersonal communication with board, staff, and other association members and on the preparation, editing, and publication of journals and other written materials. Emphasis is placed on an appreciation of the value of continuing relationships with the media. The principal courses in this area are AM 272 and 275.

FINANCE AND ACCOUNTING

The curriculum includes consideration of the problems of financial planning, budgeting, accounting, and economics that are essential to all association management. The principal course, required of all students, is AM 277.

ANALYTICAL AND RESEARCH METHODS

Courses comprising this area emphasize competence in research design, statistical methods and in the application of statistical analysis. All students are required to take PAd 295 and 296.

ASSOCIATION MANAGEMENT

This area focuses on the problems of managing association staffs. It concentrates itself with the day-to-day problems of large and growing staffs and regional offices. The principal courses include AM 276 and 279, plus a course selected from PAd 223, 224; Mgt 210, 212, 213; or BAd 210. AM 279, the capstone seminar, must be taken during the student's final semester of study; it addresses the overall problems of association management, tying together what has been previously studied, with particular reference to growing legal restrictions that are placed on association managers.

MASTER OF BUSINESS ADMINISTRATION

The Master of Business Administration degree is designed to prepare students for careers in management in both the private and public sector. The program of study leading to the Master of Business Administration provides a basic foundation

tion in the functions of business, the environment in which it operates, and the analytical tools needed for intelligent decision making. The program provides in-depth study of one field of instruction and broad exposure to subjects and issues at the general management level.

The program consists of 60 semester hours of course work, of which 27 may be waived if comparable study has been completed at a regionally accredited college or university prior to admission. Thus the shortest possible program is 33 semester hours.

The program of study consists of two levels and contains four components.

First Level: Common Body of Knowledge Courses (30 semester hours)

Econ 217-18; Accy 201; Mgt 205, 218, 270; BAd 201, 220, 240, 297

This set of courses must be completed prior to enrollment in Second-Level courses, except BAd 297, which must be taken in the last semester of the program. All of these course requirements, except BAd 297, may be satisfied by evidence of successful completion of comparable work at other regionally accredited institutions. Common Body of Knowledge courses not completed before the applicant matriculates in the School of Government and Business Administration will be assigned in the letter of admission. First-Level courses may not be taken to satisfy Second-Level requirements (breadth, field of instruction, or elective courses).

Second Level

1. Breadth Courses (15 hours)

Breadth courses provide exposure to a broad range of subjects intended to develop professional competence in general management. In consultation with a faculty advisor, students select five courses from at least four teaching fields outside the field of instruction. Students may design a program in consultation with their advisor that is tailored to individual career goals.

2. Field of Instruction Courses (12 hours)

This set of courses gives students depth of understanding in a selected field. Courses are selected in consultation with the faculty advisor and may be tailored to individual interests.

3. Elective (3 hours)

Students may select any graduate-level course to satisfy this requirement after consultation and approval of the faculty advisor.

4. Required Common Body of Knowledge Course (3 hours)

This course, BAd 297, Strategy Formulation and Implementation, is a required capstone course for all M.B.A. students. It must be taken in the last semester.

Fields of Instruction

Students select a minimum of 12 semester hours from one of the following fields.

BUSINESS ECONOMICS AND PUBLIC POLICY

This field is directed toward understanding, analyzing, and dealing with the principal forces shaping the total business environment. Special attention is given to the policies and programs of governments, social and cultural change, and the structure, evolution, and fluctuations of the economy. Students in this field take courses that survey the social, legal, political, and economic environment of business and the micro- and macroeconomic foundations of government programs and of business response to these programs. Elective courses

may be chosen in business representation, public decision making, government regulation of business, government-business liaison functions, and public administration.

DECISION SYSTEMS

At all organizational levels, decision making is among the most important and most difficult responsibility of managers. This field prepares students to work with systems to improve and assist the decision process. The field is application oriented and utilizes mathematical, statistical, and computer models. The student may choose either of two tracks: quantitative analysis for decision making which focuses on the operations research content of decision systems, or decision support systems, which emphasizes computerized systems that support the decision process.

FINANCE AND INVESTMENTS

This field prepares students for careers in finance and investments, providing background in business budgeting, controllership, treasury, long-range planning, reporting, and financial management processes. Courses are designed to emphasize the planning, analysis, implementation, and controls necessary for making effective financial decisions. Instruction not only applies to manufacturing and trading enterprise but, in addition, includes railroad and public utility financing. Each, however, has distinctive operating features. Most financial dogmas have a universality that cuts across business lines, and variations are more a matter of degree than of substantive difference.

HUMAN RESOURCES MANAGEMENT

This field is concerned with all aspects of the employment of human resources in business organizations. Career opportunities are open in domestic and international business organizations, hospitals, trade associations, research and educational institutions, and local, state, and federal government agencies. Courses encompass all phases of the recruitment, selection, employment, and development of people, industrial relations, unionism, collective bargaining, labor relations, and manpower utilization.

INFORMATION SYSTEMS MANAGEMENT

This field is concerned with issues related to modern information and decision support systems in private and governmental organizations. Areas include systems analysis, user-system psychology, and trends in information systems.

The program is designed for the professionals responsible for analyzing information system needs of an organization and developing an implementation plan for meeting requirements. Plans would deal with the determination of information needs and information flows within the organization. The information system professional selects the proper blend from the options available in information systems, database management systems, decision support systems, and expert systems. These decisions are based on knowledge of available technology and an understanding of the psychological aspects of user acceptance and productivity.

INTERNATIONAL BUSINESS

This field is designed to prepare students for careers in international business, international and multinational corporations, and export trading companies.

careers in the federal government and in international agencies concerned with business, industry, and finance abroad; and for the commerce option of the Foreign Commercial Service.

The program is also designed to provide international students with the background and skills necessary to promote international business, and to prepare them for careers in foreign and domestic firms within their own countries and for commercial officer positions within their governments.

LOGISTICS, OPERATIONS, AND MATERIALS MANAGEMENT

This field addresses issues related to management and operating skills in the several work areas it encompasses at the national and international level as well as in the private and public sectors. Activities in this field include materials acquisition, production, quality control, distribution, maintenance, and support functions throughout the life of the organization, system, or product. Personnel skilled in these activities stimulate organizations to increase productivity and organizational effectiveness.

The program focuses on the integration of the administrative functions associated with transactions, technology, production, and services necessary to institutional success. The field is designed to provide students with knowledge of acquisition and logistics functions and to develop the capacity to analyze information, define problems, evaluate quality, assess impacts, and draw conclusions pertinent to logistics plans and operations. Students are encouraged to emphasize formulation of objectives, planning, and management of operations throughout the system life cycle. Each student elects a study track (procurement and contracting, physical distribution, or product operations) in consultation with the advisor.

MANAGEMENT OF SCIENCE, TECHNOLOGY, AND INNOVATION

This field explores the many aspects of technology relating to and influencing research and development management, business, and public policy. The employment of state-of-the-art technology and the creation of new technology through research and development are important processes in the achievement of the objectives of both private firms and governments.

The research and development environment has many unique operational characteristics. The concentration has been designed to identify and study the problems associated with managing creative professional people in a dynamic technology. As a contextual area, the program stresses the need for students to undertake original and meaningful research involving political, economic, sociological, and operational problems encountered by management in industrial, governmental, and military research and development organizations.

MARKETING

This field is concerned with the development of professional marketing managers whose responsibilities may include planning and developing new products, services, and ideas; advertising, selling, and merchandising; and arranging distribution channel systems. Courses cover all aspects of the marketing management function. Foundation courses are Marketing Management, Buyer Behavior, and Marketing Research. Functional courses are Promotion Management, Marketing Channels, Marketing Strategy, and Product/Service Management. Specialized elective courses—International Marketing, Industrial and Government Marketing, and Marketing and Public Policy—utilize the resources of the Washington metropolitan area.

ORGANIZATIONAL BEHAVIOR AND DEVELOPMENT

This field reflects the assumptions that the effective utilization of the behavioral sciences is concerned with both means and ends and that the specialist in behavioral science not only is skilled in theory and research but also applies technical and specialized knowledge as a conscious force in effective organizational growth and improvement. Thus, courses are designed to equip the student with organizational concepts and behavioral skills appropriate to optimizing utilization of a human system's total resources.

This program helps meet the need for professionals capable of designing, creating, and developing the necessary behavioral and organizational systems appropriate to rapidly changing societies. Emphasis is on the interrelationships of such dimensions as motivation, leadership, problem solving, organizational growth, and increased complexity of modern organizations and their effect upon the functions of organizational development.

SYSTEMS THEORY AND CYBERNETICS

This field provides a broad, interdisciplinary perspective for dealing with complex management problems. Systems theory identifies principles of organization common to physical, biological, and social systems, while cybernetics is defined as the science of communication and control in man, machine, and society.

As the size and complexity of organizations increases and as social and technological change accelerates, this field has evolved as a way to understanding the underlying principles of organization and management. The field is relevant to the operating manager or policymaker in the private or public sector.

Because the program is interdisciplinary, students are afforded an unusual broad range of opportunities to apply their educational experience. Graduates pursue careers in general management of public and private organizations, especially those in high-technology and international fields; staff and consulting work in fields such as strategic planning, organizational development, and public affairs; technical studies in systems analysis and engineering, information system design and development, and systems science; and research and teaching in systems theory and cybernetics programs.

URBAN DEVELOPMENT

This field is designed to provide interdisciplinary and applied studies for students preparing for a business career in urban development processes. The field combines the fundamental economic principles and concepts that govern urban investment and development process with those that emphasize the analysis of specific projects, including site requirements and physical relationships, holding capacity, market conditions, financial feasibility and requirements, legal framework and constraints, and opportunities associated with the public sector and long-term community needs.

The field prepares students for careers in mortgage banking, housing, construction and building management, real estate sales and appraisal, development planning and public policy, commercial leasing and marketing, financing, and construction lending.

MASTER OF HEALTH SERVICES ADMINISTRATION

The Master of Health Services Administration degree program is designed to provide a core of generalist administrator courses for all students, coupled with specialized elective fields of instruction to meet the interests and career objectives of individual students.

The program of study consists of 54 semester hours of course work. In addition, 3 semester hours each in accountancy, economics, and statistics are prerequisite if comparable study has not been completed prior to matriculation as a degree candidate.

The generalist core includes the following nine courses: HSA 202, 203, 206, 207, 210, 211, 212, 215, and Mgt 210. In addition, each student must take two advanced HSA courses, one chosen from Group I and one from Group II, from among the following:

Group I (Policy/Planning)—HSA 221, 223, 225, 227, 252, 255.

Group II (Management)—HSA 231, 233, 235, 236, 237, 238, 239.

During the last semester on campus, each student must also complete HSA 245, which serves to integrate the concepts and methods of health services administration.

The fields of instruction each comprise 18 credit hours, including an experience-based learning component. In some fields of instruction, a one-year (9-semester-hour) administrative residency is mandatory. In other fields of instruction, the student may choose a 3-semester-hour internship and 6 semester hours of additional course work as a substitute for the 9-hour residency. Consequently, fields of instruction fall into one of two patterns:

Residency Option—Specialist course work, 9 hours; administrative residency, 9 hours. Students will not be permitted to enter any administrative residency unless they have attained a 3.0 quality-point average with no grades of I.

Internship Option—Specialist course work, 15 hours; administrative internship, 3 hours.

Courses comprising the field of instruction may be taken in the Health Services Administration Department, the School of Government and Business Administration, the University, or the Consortium of Universities. Each student develops a set of conceptually related courses suitable for the field of instruction and individual career objectives. The choice of courses must be approved by the faculty advisor and the department(s) offering courses.

This curriculum structure gives students an unusual opportunity to develop academic programs particularly suited to their needs. The core courses and the two advanced HSA courses provide students with generalist administrative competence; the nine fields of instruction offer a wide choice of areas in which to develop special expertise. In all but three fields of instruction, students have a choice concerning the amount of experiential learning they wish to include in their programs of study. This choice concerning the amount of field experience can affect the number of months required to complete the program; that is, for a full-time student the residency option will require 28 months, while the internship option will require 20 months.

Fields of Instruction

An asterisk indicates that a 9-credit-hour administrative residency is required in that field of instruction.

MANAGEMENT OF ACUTE-CARE HOSPITALS*

This field of instruction is designed to provide an understanding of the organization, management, and interrelationships of hospital clinical, support, and administrative functions, and analysis of systems and procedures used to provide short-term inpatient services. Students are also provided with a managerial base in the areas of health services policy-making, regulation, and legislation.

MANAGEMENT OF LONG-TERM CARE SERVICES*

This field explores a wide range of medical and support services required on a recurring or continuous basis by individuals who are unable to function independently because of chronic mental or physical impairment. These services are provided in a variety of settings, including homes for the aged, chronic care rehabilitation or psychiatric hospitals, hospitals or homes for the mentally retarded and developmentally disabled, geriatric centers, and the client's home. The field also provides a management base in the areas of health services planning, policy-making, regulation, and legislation as applied to long-term care.

MANAGEMENT OF AMBULATORY HEALTH SERVICES*

This field addresses the critical need for managing the delivery of health and medical services to individuals who do not require the constant supervision associated with inpatient care and can either travel to the site where services are provided or be treated in their domicile. Although this definition includes such activities as individual practice of medicine, instruction will focus only on the management of services in organizational settings in which two or more individuals are engaged in delivering ambulatory care as a service offered by a formal organization. Examples of settings for ambulatory services are hospital outpatient departments, medical group practices, health maintenance organizations (HMOs), and public health center clinics. Ambulatory services administration also work in the areas of health services planning, policy-making, regulation, and legislation.

HEALTH INFORMATION SYSTEMS

This field is designed to provide an understanding of information systems as they are used in the administration of health services. The application of electronic data processing or computers to health care is stressed. Although some knowledge of programming languages will be necessary, the concepts of information and computer systems will be emphasized. Examples of the areas of application are medical records, program evaluation, community/national health statistics, financial management assessment, and productivity control.

HEALTH SERVICES FINANCIAL MANAGEMENT

This field responds to a demand for a thorough understanding by the administrator of financial management in health institutions. The instruction includes managerial accounting, cost analysis, financial decision making, capital formation, and investment analysis, with specific adaptation to unique problems within the health care field.

HEALTH SERVICES MATERIALS MANAGEMENT

This field explores the management of physical resources in health service institutions. The instruction focuses on the purchase and management of supplies and equipment, inventory management, contracting, cost allocation, plant operations, and facilities maintenance.

HEALTH SERVICES POLICY, MARKETING, AND PLANNING

This field is designed for those who wish to focus on strategic planning, marketing of health care systems and health care institutions and on health policy development and analysis. An emphasis on policy skills will enable

student to develop realistic and accurate statements of principles that can guide the health activities of governments, institutions, and other organizations. An emphasis on planning and marketing skills will enable the student to develop strategies based on values expressed by health services policies and to conduct marketing activities within health services organizations. Skills related to achieving acceptance of policies and implementation of plans will also be developed. The overriding concept is that of strategic health decision making in an atmosphere of systematic inquiry with an awareness of values.

HEALTH SERVICES AND OPERATIONS RESEARCH

This field deals with the application of research techniques and methodologies to the delineation of policy issues and the generation of solutions to problems in the organization, delivery, and financing of health services. Operations research is the application of mathematical techniques such as linear and nonlinear programming, queuing models, and simulation to develop solutions for operating and policy problems.

HUMAN RESOURCES MANAGEMENT

This field covers resources planning, allocation, utilization, and development and evaluation of health services personnel. Included are the various personnel functions, the development of personnel policies and procedures, employee and labor relations, and collective bargaining.

MASTER OF PUBLIC ADMINISTRATION

The Master of Public Administration degree program prepares students for professional careers not only in the public service (federal, state, and local) but also in organizations that require a knowledge of public policy and administration, such as public interest groups and research institutes. The 42-semester-hour program, outlined below, is intended to provide both a generic core for all students and specialized elective fields tailored to the interests and career objectives of each individual student. The curriculum provides graduate instruction in all areas recommended by the Guidelines and Standards for Professional Master's Degree Programs issued by the National Association of Schools of Public Affairs and Administration.

All students are required to complete an eight-course (24-semester-hour) core, which includes courses in public administration and management, public expenditure analysis, public policy, organization theory, human behavior in organizations, and research methods; at the end of the program, students are required to take PAd 289, which serves to integrate the diverse perspectives in public administration.

Each student selects, in addition, an elective field designed to provide a deeper and broader knowledge in a field of particular interest. The elective fields generally require a four-course sequence. With the approval of a faculty advisor, the student may design a special field when none of the fields offered matches individual learning and career objectives.

Students who lack substantial knowledge of the structure and functioning of government are strongly encouraged to take one of two courses in American administrative institutions: PAd 213, Administration in the Federal Government, or PAd 242, Administration of State and Local Governments. The remainder of the program consists of two elective courses chosen by the student with

the advisor's approval. The electives may be taken in any related program discipline.

Because public service requires a wide variety of expertise, students with undergraduate degree backgrounds are considered for admission. There are no specific course prerequisites.

Required Courses

Core Courses (24 semester hours): PAd 205, 295, 296, 260 or 261; Mgt 210 or PAd 221; PAd 252, 289, 213 or 245.

Elective Fields (12 semester hours—see below)

American Administrative Institutions (3 semester hours): Either PAd 213 or PAd 221 is recommended as an introductory course. In some of the elective fields, either course may be counted as 3 of the 12 required semester hours.

Elective Courses (6 semester hours)

Elective Fields

The nine elective fields offered within the Department of Public Administration are described below. Twelve semester hours are required for each field. In addition to the fields listed below, students may elect such other standard course fields as Business Economics and Public Policy, Organizational Behavior and Development, Information Systems Management, International Business and Decision Systems. Students may also take an approved four-course sequence in the Department of Health Services Administration or the Department of Urban and Regional Planning. Moreover, a special field may be constructed, tailored to the student's academic interests and career objectives. To take a special field, the student writes a brief justification, specifying the courses to be taken, and submits it by petition through the faculty advisor.

BUDGET AND PUBLIC FINANCE

This field covers the processes and institutions involved in budgeting, including the practical requirements of financial management; addresses issues of income and governmental finance in a federal system; and imparts knowledge of alternative methods for allocating scarce public resources. The field is most directly suited to those who are or envision becoming budget analysts or financial management officers in public agencies.

EXECUTIVE, LEGISLATIVE, AND REGULATORY MANAGEMENT

This field offers students the opportunity to develop an expertise in the management of federal government. It includes course work in the workings of executive and legislative branches, with specific emphasis on the regulatory process, the civil service, administrative law, and congressional oversight. Geared to midcareer managers as well as entry-level graduate students, this field gives special attention to the practical functions of public management: implementation, accountability, and effectiveness.

MANAGEMENT OF NATIONAL RESOURCES

This field is designed to provide advanced course work exclusively to senior military and civilian officers at the Industrial College of the Armed Forces. This field prepares these officers for assignments that will require them to

closely with the private and public sectors in national resources management in time of war, and it prepares them for professional careers in the public sector.

MANAGING IN PUBLIC ORGANIZATIONS

This field gives primary attention to the managerial processes by which organizations are structured and their work undertaken. It includes courses in organizational theory and large organizations but is also concerned with the management of governmental activities. It is for students who intend to pursue careers in management.

MANAGING STATE AND LOCAL GOVERNMENTS

This field is designed for students interested in pursuing careers in state and local government administration. Students learn to deal with a range of federal, state, and local problems and issues, including alternative governmental structures and assignments of functions, sources of revenues and expenditure patterns, intergovernmental relations and management concerns, local government financing, and the formulation and analysis of urban policies.

POLICY ANALYSIS AND EVALUATION

The policy field is designed for those who wish to focus on the processes of public decision making and develop abilities to analyze and evaluate those processes. This field is most directly appropriate for those who now hold or anticipate taking staff analyst positions in government agencies or similar positions in research or consulting firms.

PROCUREMENT AND CONTRACTING

This field covers the many activities of government performed under contractual arrangements. Increasingly, public agencies find the most efficient, and often the only, method of meeting needs is through procurement action. This dimension of public administration is often subject to unique practices and regulations and requires the acquisition of specialized knowledge and skills in the processes of procurement and contracting. This elective field, offered jointly with the Department of Business Administration, promotes a better understanding of public-private interactions in procurement activities.

PUBLIC HUMAN RESOURCES ADMINISTRATION AND MANPOWER

This field addresses the traditional concerns in public administration with personnel, the staffing function of public organizations, and labor relations in the public sector. Courses are also offered in manpower development and the use of human resources. Graduates concentrating in this field typically work in human resources administration at some level of government.

TELECOMMUNICATIONS MANAGEMENT

This field is designed for public managers who will find it valuable to understand the various capabilities of telecommunications to organize and utilize information within an organization, to appreciate the policy issues involved in the regulation of telecommunications, and to be conversant with the terminology and structures of telecommunication systems.

Internships

Students with little or no professional experience are strongly encouraged to take an internship during the degree program. There are many opportunities in the Washington area for intern experiences in federal agencies, county and city government agencies, and the quasi-public sector. The Department assists students in securing appropriate internships; students are also encouraged to find internships on their own initiative. A substantial effort is made to relate the intern experience to the student's academic program. Internships may be paid or unpaid and may be taken for credit or not for credit. To receive academic credit, students must have completed 9 credit hours in the degree program. In general, internships for credit involve 15–20 hours of work per week for 14 weeks. Also see Government Intern Scholarship Program under Special Programs, below.

MASTER OF SCIENCE IN INFORMATION SYSTEMS TECHNOLOGY

The Master of Science in Information Systems Technology provides preparation for a career in the application of computers to the data and information problems found in organizations today. The program emphasizes a practical understanding of contemporary design and implementation approaches utilized in the development of computer-based systems.

The program consists of 51 semester hours of course work and a comprehensive examination. Course work includes 21 hours of undergraduate prerequisite and 30 hours of graduate courses, including 6 hours of electives. Certain prerequisites may be waived on the basis of the student's prior background. In addition, prerequisites may be satisfied by certain graduate-level courses as determined by consultation with the designated faculty advisor.

Degree Requirements

1. Twenty-one semester hours of prerequisite courses in the following areas: Programming languages, assembly language programming, computer system architecture, data structures, systems analysis, operating systems, data communications, database systems, and mathematics.
2. Completion of 30 semester hours of graduate course work with a quality point index of 3.0, including the following courses plus 6 semester hours of electives: Mgt 280, 282, 283, 284, 285, 286, 287, 288.
3. Successful completion of a written Master's Comprehensive Examination.

MASTER OF TAXATION

The Master of Taxation degree is designed to prepare students for careers as professionals in public accounting, private industry, and government. The program of study provides a thorough understanding of the tax laws and their application. It also supplies the necessary foundation for a broad appreciation of the business environment.

The program consists of 60 semester hours of course work, of which 27 hours may be waived if comparable study has been completed prior to admission. The minimum program of 33 hours of course work may be awarded as advanced standing.

The program of study consists of two levels.

First Level: Common Body of Knowledge Courses (30 semester hours)

Accy 201, 202, 211, 297; BAd 220, 240; Econ 217; Mgt 205, 218, 270.

These courses must be completed prior to enrollment in Second-Level courses, except Accy 297, which must be taken in the last semester of the program.

these course requirements, except Accy 297, may be satisfied by evidence of successful completion of comparable work at other regionally accredited institutions. First-Level courses may not be taken to satisfy Second-Level requirements or electives.

Second Level

1. Required Courses (21 hours)

Accy 225, 261, 262, 263, 264, 265, 269 (Accy 225 may be replaced by another graduate-level accountancy course if the student has successfully completed comparable work at another regionally accredited institution.)

2. Electives (9 hours)

Elective courses are to be selected in consultation with the designated faculty advisor.

3. Required Common Body of Knowledge Course (3 hours)

This course, Accy 297, is a required capstone course. It must be taken in the last semester.

MASTER OF URBAN AND REGIONAL PLANNING

The Master of Urban and Regional Planning is a professional degree program designed as preparation for a broad range of professional careers in both the private and public sectors. The 50-semester-hour course of study provides a broad education to develop competence in planning theory and methodology and to emphasize the analytical ability and creativity necessary for solving urban and regional problems. Emphasis is placed on the formulation of realistic planning solutions and the practice of urban and regional planning.

The degree is awarded by vote of the faculty after satisfactory completion of the following requirements.

1. Three semester hours of macroeconomics completed at a regionally accredited college or university prior to admission or within the first two semesters of the program.
2. Core courses (32 semester hours): U&RP 201, 202, 203, 207, 208, 210, 211, 212, 215, 218.
3. A field of concentration, with a minimum of 9 semester hours.
4. Six semester hours of elective courses.
5. A minimum of three months full-time (or equivalent) supervised professional work experience in planning, with an acceptable written report approved by faculty advisor.
6. A written Master's Comprehensive Examination following completion of all course work.
7. A thesis (3 semester hours) based on the candidate's research; the thesis usually complements the chosen field of concentration.

While the typical program of study, including the thesis, comprises 50 semester hours, requirements may be reduced to a minimum of 45 semester hours, depending upon the student's background and professional experience.

Fields of Concentration

Each student is required to develop a field in an area of professional specialization. A field must consist of a minimum of 9 semester hours, including a required two-course sequence. The two courses include the field's theories, concepts, and methods and their synthesis and application by means of case studies and projects. Instruction is available in the following fields.

HOUSING AND COMMUNITY DEVELOPMENT

The fundamental elements of community development are explored in this field, including housing, community facilities, fiscal policy, urban economics, and neighborhood dynamics. Emphasis within the courses of instruction is on problem identification and analysis and on plan and program formulation. Specialization in this field provides excellent preparation for professional planning positions in the public and private sectors.

COMMUNITY PLANNING AND DESIGN

The field of community planning and design is concerned with improving the relationship between people and the environment. From an understanding of users' needs and perceptions, students develop and apply their aesthetic sensibilities and creative skills in problem solving. The process, theory, principles, and techniques of community design form the basis for preparing and testing plans that are physical manifestations of a community's goals and aspirations. The field prepares students for applying this "social art" in a wide range of public and private planning positions.

HISTORIC PRESERVATION

This program is designed to foster an understanding of the historic attributes of architecture and landscape, from the extraordinary monument to the most ubiquitous of patterns; developing skills to document, assess, and protect our historic legacy; and acquiring a sensitivity to design and planning issues central to managing the forces of growth and change within a historic context. Preservation is examined as process, involving a wide range of participants, that can vary in complexion, focus, and concrete goals. The ability to solve problems in preservation is emphasized over any set of administrative or political procedures.

SPECIALIST IN HEALTH SERVICES ADMINISTRATION

Students with a master's degree in an approved related field or with a master's degree and managerial experience may undertake studies leading to the degree of Specialist in Health Services Administration. This program serves people who plan to begin a career in management, policy-making, or planning in the field of health services or who wish to supplement previous graduate study in health services administration.

Most students with adequate preparation in health services administration or a related management field should be able to complete the requirements by undertaking a 30-semester-hour program of study. Those lacking specialized preparation will need additional course work, depending on career goals. Field experience assignments, if required, are in addition to the 30-semester-hour minimum.

Individual programs will be developed in consultation with a faculty advisor on the basis of the student's educational background, experience, and specific professional objectives.

All students must take at least one doctoral-level seminar in health services administration (HSA 310 or 330) and complete a 3-semester-hour research project (HSA 270). The remaining hours may be taken in health services administration or other appropriate disciplines.

DOCTORAL PROGRAM

The degree of Doctor of Philosophy is offered in accountancy, business administration, health services administration, information and decision systems, management and organization, and public administration. The Committee on Doctoral Studies supervises all aspects of the program.

Admission

The minimum admission requirement is a bachelor's degree from a regionally accredited college or university, preferably with a major appropriate to the proposed field of study. Most applicants have completed a master's degree in an appropriate field. Applicants whose degrees are in fields other than their proposed field of study are expected to obtain the necessary background either before or soon after admission to the program. Scores on the Graduate Record Examination or the Graduate Management Admission Test are required. However, applicants who have taken the Law School Admission Test or the Medical College Admission Test may submit these test scores for consideration. Under special circumstances, scores on the Miller Analogies Test may also be submitted. Applicants whose test scores are more than 10 years old are required to take or retake the Graduate Record Examination or the Graduate Management Admission Test. Applicants whose test scores are more than five years old are encouraged but not required to take or retake either of the tests. Arrangements to take the tests must be made with the Educational Testing Service. Students whose native language is not English must also submit the Test of English as a Foreign Language (TOEFL) scores with a total score of not less than 550.

The Doctoral Committee does not use specific cutoff points for grade averages and test scores. It carefully reviews each applicant's entire record and makes its selection on a competitive basis in keeping with enrollment limitations.

Admission to the doctoral program is granted for the fall semester and summer sessions only. Completed applications must be sent to the Office of Enrollment Development and Admissions, School of Government and Business Administration, George Washington University, Washington, D.C. 20052, by March 1 for the fall semester and summer sessions. Applicants are notified of their eligibility for admission four to five weeks subsequent to established dates for receipt of the completed application and all required supporting credentials.

Plan of Study

The doctoral program consists of two major parts: the pre-dissertation stage and the dissertation stage. The objective of the pre-dissertation stage is to provide the student with the theoretical foundations and practices of the primary and supporting fields of study and with a command of the relevant qualitative or quantitative analytical methods. The objective of the dissertation stage is to have the student apply the obtained theoretical and practical knowledge and analytical methods to the resolution of a research problem. The research should be original and is expected to result in a contribution, either applied or theoretical, to the existing body of knowledge. The total program must be finished in seven years; only under very special circumstances can extensions beyond this time limit be given by the Committee on Doctoral Studies. If a student is granted an extension beyond the seventh year (14 semesters), the student must register and pay for 3 credit hours of Dissertation Research at the then-current tuition rate every semester until graduation.

The pre-dissertation stage is based on an individual study plan developed by the student under the guidance of the primary and supporting field advisors during the first academic year. In the study plan the student must state long-range professional objectives, all proposed academic activities, methods of evaluation, and a semester-by-semester schedule.

All students, regardless of the primary field of study, must include in their study plan Mgt 390, Philosophical Foundations of Administrative Research, and the multidisciplinary course, 311, Seminar: Public-Private Sector Institutions and Relationships. These courses should be taken during the first academic year after admission. Mgt 391, Methodological Foundations of Administrative Research, must be taken at the end of course work.

In addition to the evaluation methods proposed in the study plan, the primary and supporting field advisors evaluate the student's progress at the end of the first and second semesters after admission, and thereafter at the end of the second semester of each academic year. A comprehensive evaluation of the student's activities for both the primary and supporting fields is the final process of the pre-dissertation stage.

As background, a student whose field is designated as Business Administration must demonstrate, either through prior academic experience or through the proposed content of the doctoral study plan, a working knowledge of the principal content areas of business administration.

Supporting fields may be chosen from other departments of the University. A student selecting a field outside of the School, however, must meet the academic and administrative requirements of the department involved.

For more detailed information on the program and its administration, see the *Handbook on the Doctoral Program*, available in the Doctoral Program Office.

SPECIAL PROGRAMS

International Institute for Health Services Administration

In recognition of special educational needs of students from other countries, the International Institute for Health Services Administration offers programs of instruction designed to meet these needs at either the degree or certificate level.

It is also equipped to enter into arrangements with principals of health systems in worldwide areas to assist in the preparation of teaching personnel or the actual instruction of administrative personnel either abroad or at the University.

Joint Master's and Juris Doctor Degree Program

In certain instances arrangements may be made for students to work concurrently toward both the Juris Doctor degree in the National Law Center and the Master of Business Administration or Master of Public Administration in the School of Government and Business Administration. Students must be admitted separately both to the National Law Center and to the School of Government and Business Administration and must meet all requirements in each degree program. It is possible for a student to complete work for both degree programs within four years.

Certification of Purchasing Managers

The School of Government and Business Administration participates in the nationally recognized certification programs. The Certified Public Purchasing

Officer (CPPO) is administered by the National Institute of Governmental Purchasing, 115 Hillwood Ave., Falls Church, Va. 22046; the *Certified Professional Contracts Manager* (CPCM) is administered by National Contract Management Association, 6728 Old McLean Village Dr., McLean, Va. 22101; the *Certified Purchasing Manager* (CPM) is administered by the National Association of Purchasing Management, 496 Kinderkamack Rd., P.O. Box 418, Oradell, N.J. 07649.



ELLIOTT SCHOOL OF INTERNATIONAL AFFAIRS

Dean M.A. East

Associate Dean H.R. Nau

FACULTY 1989-90

Professors Y. Alexander (Research), W.H. Becker, E. Berkowitz, B.L. Boulter, J. Chaves, J.J. Cordes, R.M. Dunn, Jr., M.A. East, J.A. Frey, R.S. Goldfarb, O. Havrylyshyn, P.P. Hill, H.C. Hinton, M.A. Holman, Y. Kim, P.F. Klarén, J.E. Kwoka, Jr., H.L. LeBlanc, W.H. Lewis, C.A. Linden, J.M. Logsdon, J.C. Lowe, C. McClintock, J. Millar, J.A. Morgan, Jr., C.A. Moser, H.R. Nau, B. Nimer, J. Pelzman, J.M. Post, P. Reddaway, B. Reich, L.P. Ribuffo, H.M. Sachar, B.M. Sapin, C.W. Shih, G. Sigur, H. Solomon, G. Stambuk, C.T. Stewart, Jr., R. Thornton, A.M. Yezer

Adjunct Professors R. Butterworth, T.F. Carroll, J.F. Coates, V.T. Coates, J. Hardt, E.L. Warner

Professorial Lecturers E.G. Griffin, K.S. Flamm, J. Schlight
Associate Professors C.J. Allen, M.A. Atkin, M.D. Bradley, C.J. Deering, C.F. Elliott, H.B. Feigenbaum, J. Henig, C.J. Herber, W.R. Johnson, C.C. Joyner, Y.K. Kim-Renaud, J.H. Lebovic, D.L. Lee, G. Ludlow, Y. Olkhovsky, R.W. Rycroft, S.C. Smith, M. Sodaro, H.S. Watson, S. Wolchik, R.Y. Yin

Adjunct Associate Professor M.B. Wallerstein

Associate Professorial Lecturers S.E. Johnson, G.R. Kieval
Assistant Professors H.L. Agnew, N.J. Brown, M.D. Moore, J.P. Rogers, G.C.Y. Wang

Assistant Professorial Lecturer G. Sandles

Committees*

DEAN'S COUNCIL

M.A. Atkin, H. Feigenbaum, O. Havrylyshyn, W.R. Johnson, J. Pelzman, P. Reddaway, R. Rycroft

COMMITTEE ON APPOINTMENTS, PROMOTIONS, AND TENURE

R. Johnson (Chair), M.F. Gordon, O. Havrylyshyn, H. Nau, B. Sapin

The Dean of the School is an *ex officio* member of all committees.

INTRODUCTION

The Elliott School of International Affairs offers graduate and undergraduate programs to prepare individuals for an increasingly international and multicultural environment. The historical roots of the Elliott School can be traced to the establishment of the School of Comparative Jurisprudence and Diplomacy in 1898. In 1966, the School separated from the School of Government, Business and International Affairs to become an independent unit, the School of Peace and International Affairs. In 1987, the name was changed to the School of International Affairs, and in 1988 the School was renamed in honor of Evelyn and Lloyd H. Elliott, the President of George Washington University from 1981 to 1988.

Academic Programs

The Elliott School has undergraduate and graduate programs in international affairs, Latin American studies, and East Asian studies; an undergraduate program in Middle Eastern studies; and graduate programs in Russian and European studies, security policy studies, and science, technology, and foreign policy. Programs are multidisciplinary and emphasize both domestic and foreign governmental policy. Course offerings draw heavily on the various academic departments of the University.

Undergraduate programs are designed to foster a liberal education that focuses on a solid understanding of major historical and contemporary issues in international affairs. The programs tend to have a broader base than a major in a traditional academic discipline.

Graduate programs lead to the degree of Master of Arts. Students develop a higher level of competence in a world region or a discipline in preparation for professional employment in government or in international organizations, agencies, or business.

REGULATIONS

See Admissions; Registration; Fees and Financial Regulations; Regulations

Attendance

Students are held responsible for all of the work of the courses in which they are enrolled, and all absences must be excused by the instructor before provisions are made to make up the work missed. A student suspended for any cause must not attend classes during the period of suspension.

Withdrawal

Withdrawal without academic penalty after the end of the fifth week of a semester (fall or spring semester) is permitted only in exceptional cases (see Withdrawal, page 48).

THE DEGREE OF BACHELOR OF ARTS

The Elliott School offers programs leading to the degree of Bachelor of Arts in the fields of international affairs, East Asian studies (China or Japan), Latin American studies, and Middle Eastern studies.

ENTRANCE REQUIREMENTS

Good character and an academic background appropriate for the program of studies contemplated are required.

Requirements for admission to the freshman class are as follows:

1. An acceptable certificate of graduation from an accredited secondary school, showing at least 15 units,* which must include four years of English; at least two years of one foreign language; two years of science, preferably with laboratory instruction; two years of social studies, one of which must be American history; and one year of college-preparatory mathematics beyond introductory algebra.

2. The principal's statement that the applicant is prepared to undertake college work.

3. Standardized test scores submitted on College Board Achievement Tests in English composition and mathematics and on the Scholastic Aptitude Test, or on the American College Testing battery.

It is recommended that the College Board examinations be taken in December or January. Scores on tests taken in the junior year may be submitted. Arrangements for tests are the responsibility of the applicant and should be made with the College Board Admissions Testing Program, CN 6200, Princeton, N.J. 08541-6200, not less than one month before the date of the tests. In applying for the test, the applicant should specify that the scores be sent to the Office of Admissions, George Washington University, Washington, D.C. 20052.

American College Testing battery scores are also accepted. The applicant should request that these scores be sent to the Office of Admissions directly from the American College Testing Program, Iowa City, Iowa. It is recommended that the applicant take the tests in October of the senior year.

Consideration can be given to the adequacy of the qualifications of an applicant who, because of unusual circumstances, does not present all the requirements stated here. Appropriate scholastic aptitude tests may be prescribed.

Admission with Advanced Standing

Requirements for admission of students transferring from other regionally accredited colleges and universities and from other divisions of this University are as follows. Applicants who have accumulated at least 30 semester hours (or the equivalent) of academic credit at another regionally accredited college or university may be admitted to the Elliott School of International Affairs as transfer students with advanced standing. Those who have achieved a quality-point index of at least 3.0 on a 4.0 scale in previous college work will be given preference for admission. Applicants who have completed fewer than 30 semester hours of acceptable credit must meet entrance requirements for freshmen. Advanced standing may be awarded for properly certified courses for which the student received a grade of C or above, provided that such courses are comparable to the curriculum requirements for the degree sought in the Elliott School. In the case of course work completed at a two-year college, no more than one semester hours of credit may be applied as advanced standing toward a degree in this School.

Although a grade of D in a course is not acceptable for transfer, the course may satisfy a curriculum requirement. Credits earned with a grade of D will not, however, be assigned as advanced standing.

*One unit represents a year's study in a secondary school subject, including in the aggregate not more than 120 sixty-minute periods, or the equivalent, or prepared classroom work.

The Elliott School reserves the right to refuse credit for transfer in whole part or to accept credit provisionally.

It is the responsibility of the student to have an official transcript from institution formerly attended sent directly to the Office of Admissions, Georgetown University, Washington, D.C. 20052.

Students wishing to transfer from another division of the University degree program in the Elliott School must submit to the Office of Admissions a formal application for transfer and must be in good academic standing with a cumulative quality-point index of 2.5 or above at the time of transfer. A minimum of 45 semester hours earned as a nondegree student in the Division of Continuing Education may be applied toward a degree in this School.

All transfer students must satisfy the residence and course requirements for degrees awarded by the Elliott School.

GENERAL REQUIREMENTS FOR THE DEGREE

Academic Work Load

The normal academic work load for a full-time student is 15 semester hours. A full-time student not on probation may take a course load of up to 17 semester hours. A student with a strong academic record may take up to 18 semester hours with the approval of the dean. Students on probation are limited to 13 semester hours.

Scholarship Requirements

In order to graduate, a student must have the following: (1) 120 semester hours (90 semester hours if the student qualifies for the special 90-semester-hour program) of passing grades (courses in exercise and sport activities cannot be included in the required hours); and (2) a cumulative quality-point index of at least 2.0.

DEAN'S HONOR LIST

The name of every student who attains a 3.50 quality-point index in course work is placed on the Dean's Honor List for that semester. Appearance on the list is limited to (1) full-time students registered for a minimum of 12 semester hours and (2) part-time students registered for a minimum of 12 semester hours over a period of two consecutive semesters, which may include a summer term.

ACADEMIC STANDING

A student whose cumulative quality-point index (QPI) is less than 2.0 but at least 1.0 any time after having enrolled in a minimum of 24 semester hours is placed on probation: "First Probation" for the initial semester, "Second Probation" for the second semester. For part-time students and students enrolled in summer sessions, a "semester" is interpreted to mean a time interval in which at least 12 semester hours have accrued. A student on probation is limited to no more than 13 semester hours of course work per semester.

A student who resumes a cumulative QPI of 2.0 or more after a first or second semester on probation is removed from probationary status. Failure to resume a cumulative QPI of 2.0 after two successive semesters on probation results in suspension. The Dean's Council may continue a student on probation if satisfactory progress is demonstrated during the probation period.

A student whose cumulative QPI falls below 1.0 any time after having enrolled

in a minimum of 24 semester hours as a student in the Elliott School will be suspended.

Students who are suspended for poor scholarship may apply for readmission after the lapse of one fall or spring semester. To be considered for readmission, the student must submit evidence to the Dean's Council of conduct during absence from the University which indicates that the student will profit from readmission. A student suspended twice for poor scholarship will not be readmitted.

INCOMPLETE/AUTHORIZED WITHDRAWAL

Conditions under which the grades I (Incomplete) or W (Authorized Withdrawal) may be assigned are described under Regulations.

Changing an Incomplete—The grade of I must be changed no later than the last day of the examination period for the fall or spring semester immediately following the semester or summer session in which the grade of I is assigned. An incomplete that is not changed within this period automatically becomes an F. In cases of well-documented extenuating circumstances, an instructor and a student may jointly petition the dean, or the appropriate committee, for additional time in which to complete the work of the course. Such petitions should be submitted within the same period. The grade of I cannot be changed by registering for the course here or by taking its equivalent elsewhere.

Residence

A minimum of 30 semester hours, including at least 12 hours in the major field, must be completed while registered in the Elliott School of International Affairs. This requirement applies to students transferring within the University as well as to students transferring from other institutions. Unless special permission is granted by the dean to pursue work elsewhere, the last 30 semester hours must be completed in the Elliott School.

Use of Correct English

Any student whose written or spoken English in any course is unsatisfactory may be reported by the instructor to the dean. The dean may assign supplementary work, without academic credit, varying in amount with the needs of the student. If the work prescribed is equivalent to a course, the regular tuition fee is charged. The granting of a degree may be delayed for failure to make up any such deficiency in English to the satisfaction of the dean.

Internships

Internships offer students the opportunity to make practical use of the knowledge they acquire in the classroom. Undergraduates who have completed at least 10 credit hours are eligible to arrange internships for credit. Academic work in the field of the internship is required.

Internships are available in the private and public sectors. Students are responsible for locating their own internships; listings are posted in the GWU Career Services Center.

Regulations on Study Abroad

Students are encouraged to travel and study abroad. Those wishing to study abroad must consult their academic advisor and the study-abroad advisor. Students must secure the dean's prior approval for any plan of study abroad if the

credit earned is intended to apply to the degree program in which the student is registered. A catalogue or other description of the foreign institution and the program must be presented for consideration together with detailed descriptions of the courses to be taken. See Study Abroad Programs, page 166.

Pass/No Pass Option

A student in the Elliott School of International Affairs who has a cumulative quality-point index of 2.5 or better may, with the approval of an advisor and the dean, take one course per semester and receive a grade of P, Pass, or NP, No Pass, which will be recorded on the student's transcript but will not be reflected in the cumulative grade average. A student must sign up for such an option at registration. Under no circumstances may a student change from pass/no pass status to a graded status, or vice versa, after the end of registration. Courses in the student's major (except those in which the grade of P or NP is normally assigned) may not be taken on a pass/no pass basis. A transfer student may not elect to take a course on a pass/no pass basis until the second semester of enrollment in the University. Students in the School of International Affairs may take no more than six courses in which the grade of P or NP is assigned, including those in which the grade of P or NP is normally given and those taken in any other college, school, or division of the University prior to transferring to the Elliott School.

Additional Requirements for the 90-Semester-Hour Program

Exceptional students may, when registered as freshmen or sophomores, petition the dean of the Elliott School of International Affairs for admission to a 90-semester-hour degree program. Supporting evidence in the form of achievement test scores, College-Level Examination Placement (CLEP) scores, and grades earned at George Washington University or any other institution must be supplied. The dean, in consultation with the Dean's Council, will determine eligibility for admission to the program, which takes place when the student enters the beginning of the junior year.

The basic assumption of this program is that the student can waive at least one semester hours of freshman or introductory requirements.

In addition to the general and curriculum requirements, students in the 90-semester-hour program must fulfill the following requirements:

1. The student must receive grades of A in 50 percent of the total courses required and in 50 percent of the courses required in the major.
2. The student must take at least 60 semester hours in courses beyond the group level (numbered above 100).
3. The 90 semester hours of credit must be earned in actual course work. Credit through advanced placement, special examinations, etc., may not be counted in the 90 semester hours required for graduation.

Students who qualify for admission to the 90-semester-hour program are encouraged to begin taking second-group courses (numbered 101-200) as soon as they are qualified to do so and should seek to obtain a waiver of prerequisites in those disciplines in which they have a strong background.

Earning Credit or Waiving Requirements by Examination

For information on earning credit by examination or waiving curriculum requirements, see your academic advisor in the Elliott School.

CURRICULUM REQUIREMENTS

Curriculum requirements for the first two years are outlined below. Requirements for majors in international affairs, Latin American studies, and East Asian studies (China or Japan) are outlined under the appropriate heading in Courses of Instruction.

	Semester Hours
English: Engl 9 or 10, and 11.....	6
Humanities: AmCv 71-72; Art 31-32 or 71-72; Clas 108, 113; *literature (American, Chinese, East Asian, English, French, German, Greek and Latin, Italian, Slavic, or Spanish); Mus 3, 4; first- or second-group philosophy courses; Rel 1, 2.....	9
+Language: Chinese, Japanese, French, German, Hebrew, Italian, Russian, or Spanish.....	12
Math/Science: BiSc 3-4 or 11-12; Chem 3-4 or 11-12; Geol 1-2; Math 9 and 10 or 30 and 31; Phys 1, 2, 5, and 6, or 9-10; Stat 51, 53, or 91, and 105 or 129; 129, 130; 111, 112.....	6
Social Science: Econ 11-12; Hist 40 and 72; PSc 1, 2.....	18
+Elective:	9
Total.....	60

SECONDARY FIELDS OF STUDY

Students can take a secondary field of study, such as business, economics, or languages, in other schools of the University. Students from other schools of the University can take a secondary field of study in international affairs in the Elliott School of International Affairs. See the brochure *Secondary Fields of Study* available in the Student Services Office.

THE DEGREE OF MASTER OF ARTS

The Elliott School offers degree programs leading to the Master of Arts in the fields of East Asian studies, international affairs, Latin American studies, Russian and East European studies, security policy studies, and science, technology, and public policy.

ADMISSION REQUIREMENTS

Application forms are available from the Office of Graduate Admissions, Elliott School of International Affairs, George Washington University, Washington, D.C. 20052. Admission is normally for the fall semester only and may be for full- or part-time study. Admission decisions are made on a rolling basis, beginning in late February. Applications for admission must be submitted by February 1 for the following fall semester. January 15 is the deadline for applicants for fellow-ship awards and for admission applications from international students.

If a student elects 9 semester hours of literature in any foreign language, this cannot be used to satisfy the language requirement.
Chin 5-6 is required for East Asian studies (China focus) majors; Japn 3-4 is required for East Asian studies (Japan focus) majors. Greek and Latin are not acceptable for international affairs majors. Latin American studies majors must include Spanish.
Credit is not given for exercise and sport activities courses.

In selecting applicants with the best prospects for success, the Admission Committee is most interested in the following: a bachelor's degree from an accredited college or university; a B average or better in a relevant undergraduate major; scores on the general test of the Graduate Record Examination (70th percentile or higher on the verbal, quantitative, and analytical sections); strong letters of recommendation; and a concise and pertinent essay.

International Affairs—The applicant's undergraduate program should include background courses corresponding to the undergraduate major in international affairs at this University or some other relevant social science program. In the case of major deficiencies in the social sciences or international relations, additional course work may be specified beyond the minimum requirements for the master's degree. The student's particular responsibilities will be indicated in the letter of admission to the program and in the course of subsequent consultation with an assigned faculty advisor.

East Asian Studies—An undergraduate major in a pertinent field is required. For the concentration in Chinese language and literature, the undergraduate program should include 24 semester hours of Chinese language study.

Latin American studies—The applicant's undergraduate program should include background courses corresponding to an undergraduate major in Latin American studies at this University, or equivalent. Majors in other fields may be considered for admission provided that undergraduate course work includes Spanish or Portuguese and sufficient course work in one of the following: anthropology, economics, geography and regional science, Hispanic literature, history, and political science.

Russian and East European Studies—An undergraduate major in a pertinent field is required. The undergraduate program should include the following courses, or equivalent: Hist 145, 146; PSc 131 or 168; Slav 1-2 and 3-4, or equivalent.

Science, Technology, and Public Policy—Undergraduate majors in a social life, or physical science, or in engineering are eligible for admission, although those lacking adequate preparation in relevant social sciences, particularly economics, may be required to take additional courses; such requirements will be indicated in the letter of admission to the program.

Security Policy Studies—An undergraduate background similar to that specified above for International Affairs would be appropriate. Working experience in the military or national security fields might compensate in part for inadequate academic preparation. A background in economics or quantitative analysis skills would also be helpful.

Readmission

A graduate student who has not been continuously enrolled, or on approved leave of absence or inactive status, must file an application for readmission one semester before planning to return to school.

GENERAL REQUIREMENTS

Programs leading to the Master of Arts degree vary in their requirements. Some programs offer an option that requires a minimum of 24 semester hours of approved graduate work plus the successful completion of a thesis; the student must register for 6 semester hours of thesis research (IAff 299-300). Other programs require a minimum of 36 semester hours of graduate course work and may include a thesis. The Security Policy Studies program does not have a thesis option; the Chinese language and literature concentration of the East Asian

Studies program requires the thesis option. Under all programs, course work is taken in order to prepare for the Master's Comprehensive Examinations.

Candidates for the degree of Master of Arts are required to submit an advisor-approved plan of studies (comprehensive fields, supporting course work, tool requirement, etc.) to the office of the dean by the end of the first semester in residence. Master's degrees are awarded by vote of the faculty after the student has completed the required course work and an acceptable thesis (if one is elected), has satisfied the foreign language or tool requirement, and has passed the Master's Comprehensive Examinations.

Under special circumstances second-group courses (numbered 101–200) may be counted toward the master's degree when registration for graduate credit has been approved at the beginning of the course by the curriculum advisor, the instructor, and the dean. The student who takes an undergraduate course for graduate credit is expected, by arrangement with the instructor, to do work at the graduate level in addition to the regular work of the course. Normally, no more than 6 semester hours of second-group courses may be taken for graduate credit in the 30-semester-hour program, and no more than 9 semester hours may be taken for graduate credit in the 36-semester-hour program. (An exception to this rule is the case of students who select one or more fields in history; they may take 9 hours of second-group courses in the 30-hour program and 12 in the 36-hour program.) No work counted toward a bachelor's degree may also be counted toward a master's degree.

All master's degree candidates must complete degree requirements within five years of their admission to the program. A student who is unable temporarily to continue the plan of studies may request a leave of absence not to exceed one year. Extensions beyond the five-year period may be granted in exceptional circumstances, but the student will be required to register and pay for 6 credit hours of Reading and Research each semester.

No credit is granted for work done in absentia or without formal instruction, except for the thesis, which may be completed in absentia with the permission of the curriculum advisor and the dean. No more than 6 semester hours of graduate credit may be transferred from other accredited institutions or another division of the University, and these may be accepted only under limited conditions of time, grades, and relevance to the student's program.

Curriculum Requirements

Curriculum requirements for the master's programs are listed under the appropriate heading in Courses of Instruction—International Affairs; East Asian Studies; Latin American Studies; Russian and East European Studies; Science, Technology, and Public Policy; and Security Policy Studies.

Tool Requirements

In most degree programs, a candidate for the degree of Master of Arts must demonstrate a reading knowledge (certified by the relevant language department) of a modern foreign language that has an appropriate literature for the study of the field. Students in regional programs must demonstrate their ability in a language appropriate to the study of the specific region. If a student selects a language not offered by the University, a testing fee of \$50 will be charged. A master's degree candidate whose native language is not English may select English to fulfill the requirement with the approval of the advisor and the dean. The examination, which will test high-level reading and writing proficiency, is administered by the English for International Students program.

Candidates in the fields of security policy studies and science, technology, and public policy may substitute statistics for a foreign language. This requirement may be met by demonstration of proficiency (i.e., grades of B or better) at the level of Stat 105, 112, 183, or 197. The tool requirements of the science, technology, and public policy field may also be fulfilled by proficiency in PAD 296.

Candidates in international affairs may petition the dean to substitute statistics for a foreign language. The primary basis for approving such petitions will be the relevance of the statistical skills to the student's thesis research.

The language or tool examination should normally be taken before the student has completed the first 15 hours of work; it must be taken before the comprehensive examination. No student may take the language or tool examination more than three times. Courses taken to fulfill the tool requirement are not counted toward the semester-hour requirement for a master's degree, nor may they be taken on a Pass/No Pass basis.

Master's Comprehensive Examinations

In addition to course examinations, the candidate must pass written Master's Comprehensive Examinations covering the chosen fields of study. Examinations are scheduled twice a year (in November and April) and should be taken during the last semester of course work or shortly after the completion of all prescribed course work. The student must have a 3.0 grade-point average in order to take the Master's Comprehensive Examinations. If there is a lapse of time between completion of course work and the examination, the student must be enrolled continuously during this period. It should be understood that course work constitutes only partial preparation for the Master's Comprehensive Examinations. Each student is expected to pursue a program of additional reading in each of the selected fields, in accordance with the advice of the faculty member responsible for instruction in that field. A student who fails to pass any part of the Master's Comprehensive Examination may, in exceptional circumstances, and with the approval of the department and the dean, repeat the examination at the next scheduled examination date. If the student fails a second time, no further opportunity to take the examination is permitted.

Scholarship Requirements

Grades for graduate work are A, Excellent; B, Good; C, Minimum Pass; F, Fail; Credit; I, Incomplete; IP, Progress; W, Authorized Withdrawal; and Z, Unauthorized Withdrawal. Courses taken to satisfy degree requirements cannot be taken on a Credit (CR) basis, with exception of Thesis Research.

Graduate students are required to maintain a minimum cumulative grade point index (QPI) of 3.0. Students whose cumulative QPI falls below 3.0 at any time after having completed at least 9 semester hours will be given an additional semester in which to raise the QPI above 3.0. Those who fail to bring their QPI over 3.0 at the end of the additional semester will not be allowed to continue in the program. For part-time students and those enrolled in summer sessions, a semester is interpreted to mean a time interval in which at least 9 semester hours have accrued.

A master's candidate who receives a grade of F is required to present consideration by the Dean's Council as to why he or she should be allowed to continue in the program of studies.

Whenever a grade has not been assigned, the symbol I (Incomplete) or Z (Unauthorized Withdrawal) will be recorded. The symbol I indicates that a satisfactory explanation has been given to the instructor for the student's failure.

complete the required work of the course. Except for thesis research courses, an Incomplete cannot be made up after the lapse of one calendar year. An Incomplete that is not made up by the end of one calendar year remains as a grade of I on the student's record. An Incomplete cannot be removed by reregistering for the course. No student will be permitted to register for courses or take the Comprehensive Examinations if there are more than two Incompletes outstanding on the record.

A student who fails to meet the established deadlines for completion of course work or other elements of the program (e.g., comprehensive examinations) and is granted an extension may be required by the dean and the Dean's Council to register for 3 credit hours of graduate Reading and Research for each semester that the work is delinquent.

The Thesis

The thesis subject should be selected as early as possible so as to permit effective integration with the course work. A student will not be permitted to register for Thesis Research (IAff 299-300) until the thesis subject has been formally submitted to the dean's office. Some programs, such as international affairs, set specific requirements in order to qualify to write a thesis. The subject must be approved by the member of the faculty under whom the thesis is to be written, a second member of the faculty who will serve as a reader, and the student's program director. The thesis in its final form must have the approval of the thesis director and one other reader, and two copies must be presented to the dean by the student no later than the date announced in the University Calendar. Printed copies of detailed regulations regarding the form and reproduction of the thesis are available in the dean's office.

Payment of tuition for thesis research entitles the candidate, during the period of registration, to the advice and direction of the thesis director and the other reader. In case a thesis is unfinished, the student must maintain continuous enrollment and is allowed one calendar year to complete it. If the preparation of the thesis extends beyond the additional calendar year, the student must register for the entire 6 hours of thesis again and pay tuition as for a repeated course.

SPECIAL PROGRAMS

Joint Master of Arts and Juris Doctor Degree Program

The Elliott School of International Affairs cooperates with the National Law Center in offering a program of study leading to the degrees of Master of Arts and Juris Doctor. A student must be accepted for admission by both the Elliott School and the National Law Center. Applications should be made separately but at the same time. Both the Elliott School and the Center should be notified that the student is interested in the combined program. The student will be admitted to the Elliott School for the academic year following the first year of study at the National Law Center, since the National Law Center stipulates that the first year of course work for the Juris Doctor degree must be taken as a unit.

The Master of Arts degree program normally consists of the 30-semester-hour program that includes a thesis. The student selects a major offered by the School and fulfills all of the requirements for the Master of Arts degree as well as fulfilling the requirements for the Juris Doctor degree. Up to 6 semester hours of credit for course work completed as part of the Juris Doctor curriculum and related to the student's degree program may be approved for transfer toward the Master of Arts degree. (Some of the course work required for the Master of Arts

degree program may be applicable toward the Juris Doctor degree requirements. Students will be registered in both the Elliott School and the National Law Center and must maintain this concurrent registration until all degree requirements have been completed. All work for this combined degree program must be completed in five years, unless an extension of time is granted by the dean.

Institute for Sino-Soviet Studies

The Institute for Sino-Soviet Studies provides a program of specialized graduate study and research within the Elliott School of International Affairs. Courses offered by the Institute are drawn from a variety of academic areas and thus provide an interdisciplinary approach to the study of the Soviet Union, Eastern Europe, East Asia, and of the Communist movement within and among the countries of these areas. Faculty members conduct seminars and reading courses in the disciplines of economics, geography, history, language and literature, law, political science. Research work is integrated with the teaching program.

The Institute's offerings are intended especially for students preparing for the Master of Arts in the fields of East Asian studies, international affairs, Russian and East European studies, or in the fields of economics, history, and political science, with specialization in Sino-Soviet studies.

Doctoral candidates in political science will take their Sino-Soviet work in the form of appropriate subfields in preparation for the general examinations in that discipline; doctoral candidates in history are expected to take at least two or three fields for the degree in the history of the countries of their specialization. Work leading to the degree of Doctor of Philosophy is under the general supervision of the Graduate School of Arts and Sciences. Consultative committees designated by the Graduate School direct the work of each student upon admission to degree candidacy. A faculty member of the Institute will serve as advisor to the candidate. The candidate's committee will be formed from members of the selected disciplinary department. Language requirements will depend upon the discipline of concentration. Candidates should consult the department in which they are taking their degree.

Center for International Science and Technology Policy

The Center, established in 1970 as the Graduate Program in Science, Technology, and Public Policy, has become a locus for the exchange of information and ideas. In addition to overseeing the M.A. program in this area, the Center organizes seminars and meetings, sponsors research, and hosts visitors from elsewhere in the United States and abroad. Recent seminar speakers have included scholarly advisors to the President and the chairman of the House Committee on Science and Technology.

Space Policy Institute

The George Washington University established the Space Policy Institute as a center of objective competence in an important area of national and international activity. The Institute focuses on policy issues related to civilian space activities and their interactions with national security space programs. It conducts research on space policy issues and organizes seminars, symposia, and conferences.

Study Abroad Programs

Study abroad programs for the academic year are currently available in England, France, Germany, Japan, China, and Peru. Students who wish to study in

tries not mentioned here should check with the office of the dean. Credits earned with acceptable grades are transferable toward the appropriate degree at George Washington University, provided there is no duplication of work done previously. All programs of study abroad must be approved on the required forms by the appropriate faculty and administrative personnel before departure. Information may be obtained from the Study Abroad Office, Stuart Hall, Room 102. Study abroad is available at varying locations during the summer. Information on summer programs abroad is available in the *GW Summer Sessions Announcement* and through the Division of Continuing Education.



DIVISION OF CONTINUING EDUCATION

Acting Dean A.O. Smith
Associate Dean G.E. Jones
Assistant Deans B.J. Moreland, G.E. Schou

INTRODUCTION

The Division of Continuing Education provides credit courses and continuing education programs by administering the off-campus programs of the college and schools of the University. The Division also sponsors noncredit courses, conferences and institutes, and seminars and workshops, as well as several certificate programs to meet the personal and continuing professional education needs of adults. Special programs of study may be developed in response to specific needs of the government and business communities. The Division includes a center designed to improve the flow of science communications information. The staff of the University for Division programs includes members of the full-time faculty of the University and academically qualified part-time lecturers from the professional community.

The Division works closely with education directors, public school officials, and personnel administrators in government, business, and industry to develop courses of study for continuing education students. In cooperation with sponsoring groups from government and business, the Division offers courses at the recently expanded Crystal City Education Center in Arlington, Virginia, and other off-campus locations in the District of Columbia and suburban Maryland and Northern Virginia. The Division also offers, through its Tidewater Center, graduate degree programs in various disciplines at locations in the Hampton, Norfolk, and Virginia Beach area. A wide range of conferences, seminars, and workshops is available to organizations and individuals from the professional community.

Any organization interested in having the Division organize and conduct a course or a comprehensive educational program should contact the Dean of the Division of Continuing Education.

The academic standards of the University are maintained in off-campus credit courses. The Division of Continuing Education is accredited by its regional accrediting agency, the Middle States Association of Colleges and Schools. All programs offered through the University's off-campus programs and administered by this Division are approved through the procedure authorized by the Board of Trustees and the Charter granted by the Congress of the United States. Degrees are granted through the faculties of the degree-granting schools and

colleges of the University. Credit earned through off-campus study conforms to academic standards throughout the University. All Division off-campus programs in Maryland are approved by the Maryland State Board for Higher Education; those in Virginia are approved by the Commonwealth of Virginia Council on Higher Education.

Except as outlined below, all general University regulations apply to students in the Division of Continuing Education. In addition, Division students may be subject to special requirements of the school or college through which they are taking courses.

ADMISSION AS A DEGREE CANDIDATE IN OFF-CAMPUS PROGRAMS

Students wishing to be admitted as candidates in an off-campus degree program may obtain application forms from the school concerned, the Division of Continuing Education, one of the University's off-campus representatives, or the education officer of their agency or installation.

NONDEGREE STUDENTS

Off-campus credit courses may be taken by nondegree students who meet the prerequisites prescribed by the department concerned. Formal University admission is not required at the time of registration in off-campus courses.

CHANGES IN PROGRAM OF STUDIES

Dropping an Off-Campus Course—A student may drop a course without academic penalty during the first third of the semester (first through fourth meetings) by completing an Off-Campus Change Slip that has been signed by the instructor and submitting it to the appropriate University representative. Withdrawal from a course without academic penalty after this period requires the approval of a written request accompanied by the completed change slip and submission to the appropriate dean.

A student must follow these procedures in order to drop any course. Notification by the instructor of the intention to drop a course does not constitute an official withdrawal. The instructor indicates on the change slip whether the student is withdrawing or dropping the course. The effective date of withdrawal and decisions regarding refund are determined by the appropriate dean. Failure to follow the proper procedure results in the recording of a failing grade and, regardless of the time of discontinuance, does not relieve the student of financial responsibility for the course. Off-Campus Change Slips may be obtained from the instructor, installation education office, or the Student Services office of the Division of Continuing Education.

DEGREE PROGRAMS

The following degree programs are offered off campus.

Graduate School of Arts and Sciences*

Master of Arts with fields and concentrations in administrative sciences, communications, in commerce, criminal justice, legislative affairs, security management, and communication

Master of Forensic Science

* For program information, see the field concerned under Courses of Instruction.

School of Engineering and Applied Science*
 Master of Engineering Administration
 Master of Science with major fields in electrical engineering (communications), computer science, information management, operations research
 Professional Degrees (Engineer and Applied Scientist)
 School of Education and Human Development†
 Master of Arts in Education and Human Development with major fields in curriculum and instruction, early childhood special education, higher education, human resource development, supervision, transitional special education
 Master of Education with a major field in secondary education
 Education Specialist with major fields in administration, higher education, human resource development
 Elliott School of International Affairs‡
 Master of Arts with major fields in security policy studies, Russian and East European studies

DIVISION PROGRAMS

The Division of Continuing Education administers off-campus degree programs and the activities of the Center for Career Education and Workshops, the Office of University Students, the Office of Conferences and Institutes, and Science Communication Studies.

CENTER FOR CAREER EDUCATION AND WORKSHOPS (CCEW)

CCEW provides a broad spectrum of services focusing on innovative, nontraditional, career-oriented education. Among CCEW programs are noncredit, graduate-level career certificate programs to prepare the legal assistant, publication specialist, landscape designer, fund raising administrator, administrative manager, association executive, information systems specialist, public relations professional, and Washington representative. Other programs are designed to prepare the certified employee benefit specialist, certified financial planner, and credit administrator. Credit courses and test review courses (for CLEP, EIT, FSE, MAT, GRE, LSAT, MCAT, and Basic Real Estate) are offered as well. Workshops and short-term courses provide the opportunity for individuals to be informed of the innovations in their fields. Courses focus on advances in computer technology and train participants to increase personal effectiveness, improve managerial expertise, reinforce leadership ability, identify practical decision-making skills, broaden understanding of systems and concepts, and develop understanding of financial, political, and social strategies. The Professional Development Program, designed to enhance the skills, productivity, and job satisfaction of an organization's employees, can provide these workshops, credit courses, and noncredit courses on site or through interactive television. CCEW offers undergraduate certificate programs that combine academic credit courses offered by Columbian College of Arts and Sciences with skill development workshops. The programs include Supervisory Specialist, Communication Studies, and Computer and Information Systems.

*See the School of Engineering and Applied Science Bulletin.
 †For program information, see the section of this Bulletin on the School of Education and Human Development.
 ‡For program information, see the field concerned under Courses of Instruction.

The Center is the site of the University's Continuing Education for Women (CEW) program, which has provided counseling and educational services for women in transition since 1964. Participants benefit from many CEW programs which currently include group and individual counseling services accredited by the International Association of Counseling Services, Inc. CEW also offers a series of special-interest courses focusing on issues confronting women. For a complete listing of services, courses, and programs, see the CEW schedule of classes.

OFFICE OF UNIVERSITY STUDENTS

The Office of University Students (OUS) makes on-campus credit courses available to those who are not currently degree candidates at this University. Students, often employed in government or industry, may be taking courses to enhance their career potential or as a matter of personal interest. They may be degree candidates for higher degrees at other institutions, sent here for special work as part of a graduate program. They may be undergraduates matriculated elsewhere, taking courses for transfer to their own institution.

All courses except those restricted to medical and law students and those of the Departments of Accountancy, Business Administration, and Management Science are open to OUS students, provided they have sufficient preparation as determined by the academic departments. Students wishing to take engineering and applied science courses should consult the School of Engineering *Applied Science Bulletin*.

Registration in a given course may be denied OUS students when space is needed for degree candidates. OUS students are not eligible to register for thesis or dissertation research nor for continuous enrollment or leave of absence. Registration requires a minimum registration of 3 semester hours per semester or session, except in special circumstances as approved by the dean.

Entrance Requirements

An academic background appropriate for the program of studies contemplated is required. In addition, the applicant who has previously attended this or another college or university must be in good standing at that institution. An applicant who has been suspended from any educational institution for poor scholarship will not be considered for admission for one calendar year after the effective date of the suspension. An applicant who has been denied undergraduate admission within this University will not be considered for admission as a non-degree student for the same semester for which the application was denied.

Applications for admission through OUS for a fall or spring semester should be obtained from and returned to the Office of Admissions. There is no application fee. For admission requirements for students from foreign institutions, see pages 24-25. For information on registration, please refer to the *Schedule of Classes*.

Regulations

See Admissions, Registration, Fees and Financial Regulations, and Regulations. Prospective and registered students are urged to acquaint themselves with the regulations concerning attendance and withdrawal (pages 46 and 48). The following specifically apply to all students registered through OUS:

Last day to add a class for credit—end of second week of classes.

Last day to drop a class for credit or to withdraw from the University—end of the seventh week of classes.

Equivalent amounts of time apply to the summer sessions.

ACADEMIC WORK LOAD

For OUS students, the normal academic work load during the regular academic year is not more than 10 semester hours for a student employed more than 20 hours per week and not more than 18 semester hours for a full-time student. During the summer a student may take a maximum of two courses during any one session. Exceptions to these limits must be approved by the dean.

SCHOLARSHIP REQUIREMENTS

A student who fails to maintain the scholarship requirements of OUS may be dismissed from the University. A statement of scholarship requirements is available in the office of the dean. All grades received in OUS remain on the record; scholarship requirements are based on the total record.

Grades—See page 46. There is no limitation on the number of courses that may be taken on a pass/no pass basis in OUS; however, there may be a limit on the number that can be transferred to fulfill degree requirements.

INCOMPLETE/AUTHORIZED WITHDRAWAL

Conditions under which the grades of I (Incomplete) and W (Authorized Withdrawal) may be assigned are described on page 46.

Changing an Incomplete—The instructor normally sets a period (maximum of one year) within which the uncompleted work must be made up. An Incomplete that is not changed within one calendar year remains as a grade of I on the student's record.

CHANGE IN PROGRAM OF STUDIES

Change Within the Office of University Students—A student may not change or drop courses (see Withdrawal, page 48) or change status to that of auditor except with the approval of the dean.

Transfer Within the University—Transfer to or from OUS may be made only with the approval of the deans concerned. Application for transfer to degree candidacy will be considered only after the completion of at least one semester in OUS or upon request from the college or school to which the student is seeking admission. Students wishing to transfer to degree candidacy must meet the conditions of the college or school to which they are applying. It is the responsibility of the student to consult the college or school concerning conditions to be met and the amount of work transferable.

COLLEGE COURSES FOR SECONDARY SCHOOL STUDENTS

Under the auspices of the Office of University Students, well-qualified secondary school students may take college courses for credit in nondegree status at George Washington University. During the academic year, high school juniors and seniors residing in the Washington metropolitan area may enroll in GWU courses as part-time, commuting students. Through the Summer Scholar Program, precollege students may enroll in a wide variety of summer courses prior to their junior or senior year of high school. Summer Scholars from outside the Washington area reside on campus in a University residence hall. Local residents may choose to use on-campus housing but are not required to do so. The Summer Scholar Program offers diversified cultural, social, and recreational experiences under the supervision of resident advisors.

Scholarships—Secondary school students with outstanding academic records and excellent scores on standardized tests will be considered for full-tuition

scholarships. Because the awards are based on academic merit rather than financial need, only the application for admission and supporting credentials are required for consideration. The amounts awarded cover tuition only and cannot be applied to housing, meals, or fees.

For further information and an application, please write to the Coordinator of College Courses for Secondary School Students, Office of Admissions, Georgetown University, Washington, D.C. 20052.

OFFICE OF CONFERENCES AND INSTITUTES

The Office of Conferences and Institutes serves the University by planning, promoting, and administering conferences, institutes, and other noncredit activities cosponsored by the University's schools, academic departments, and centers or associations. Each event promotes the research, teaching, or public service activities of the faculty and/or the University. The Office of Conferences and Institutes provides budget planning, program development, marketing, and logistic support for eligible seminars, short courses, workshops, conferences, and institutes of all sizes, either on or off campus.

SCIENCE COMMUNICATION STUDIES

The mission of Science Communication Studies is to improve the flow of scientific research information from those who generate it to those who apply it. Actively engaged in providing research and information services, SCS uses today's research tools—from conventional manual literature searches to computer systems—to collect, organize, analyze, and generate information. In addition, it develops new services and systems for access to technical literature in biomedical and aerospace sciences. Activities include maintaining a database of publications related to space life sciences research; abstracting and indexing scientific literature; and preparing and publishing scientific manuscripts, bibliographic literature searches, critical analyses in life sciences, and newsletters. SCS educates and informs via publications, conferences, and other media; it does not offer courses.

NONCREDIT COURSES AND PROGRAMS

In addition to the noncredit offerings of the Division, the University also offers a variety of noncredit professional development courses and programs through the School of Government and Business Administration (Continuing Professional Education Office), the School of Engineering and Applied Science (Continuing Engineering Education Program), and the School of Education and Human Development (Center for Research and Services).



SUMMER SESSIONS

Courses are offered during the summer by all degree-granting divisions of the University: Columbian College of Arts and Sciences, the Graduate School of Arts and Sciences, the School of Medicine and Health Sciences, the National Center, the School of Engineering and Applied Science, the School of Education and Human Development, the School of Government and Business Administration, and the Elliott School of International Affairs. During the summer, the University also offers special programs that are not available during the regular academic year. Courses are offered during both day and evening hours.

Students who are enrolled at the University for the spring semester may register for the following Summer Sessions without special application. Those who wish degree status may seek admission from the appropriate college or school within the University. Those who do not wish to work toward a degree at the University may apply through the Office of University Students and are subject to its entrance requirements and regulations stated above.

For a complete statement concerning summer term work, see the Summer Sessions Announcement.



RESEARCH CENTERS AND INSTITUTES

The University recognizes that research contributes significantly to the academic stature, achievement, and capability of the faculty in fulfilling their responsibilities as teachers and public servants. To that end, the University seeks to ensure the close integration of research and teaching, including the employment of students in sponsored projects and the use of research facilities for instructional purposes. The following units are presently chartered for these purposes; the head of each unit is indicated in parentheses.

- Biostatistics Center (J. Lachin III)
- Center for Digestive, Liver, and Biliary Diseases (H. Fromm)
- Center for High Technology (H. Liebowitz)
- Center for International Science and Technology Policy (J. Logsdon)
- Center for Social Policy Studies (S. Levitan)
- Center for the Study of Education and National Development (J. Boswell)
- Division of Research, Psychiatry, and Behavioral Sciences (D. Reiss)
- ERIC Clearinghouse on Higher Education (J. Fife)
- First Federal Congress Project (C. Bickford)
- Graduate Institute for Policy Education and Research (C. Rice)
- Institute for Artificial Intelligence (B. Silverman)
- Institute for Disease Prevention (O. Alabaster)
- Institute for Information Science and Technology (W. Kahn)
- Institute for Management Science and Engineering (W. Marlow)
- Institute for Medical Imaging and Image Analysis (R. Allman, M. Loew)
- Institute for Reliability and Risk Analysis (N. Singpurwalla)
- Institute for Sino-Soviet Studies (J. Millar)
- Institute for the Study of Fatigue, Fracture, and Structural Reliability (H. Liebowitz)
- Institute for Technology and Strategic Research (H. Liebowitz)
- Institute for Urban Development Research (D. McGrath)
- Intergovernmental Health Policy Project (R. Merritt)
- International Water Resources Institute (K. Mahmood)
- Joint Institute for the Advancement of Flight Sciences (H. Liebowitz)
- Labor Management Institute (B. Burdetsky, M. Lovell)
- Lipid Research Clinic (J. LaRosa)
- National Health Policy Forum (J. Jones)
- Space Policy Institute (J. Logsdon)
- Wilson Genetic Counseling Center (J. Larsen)



COURSES OF INSTRUCTION

The following section provides listings and descriptions of courses offered by departments of instruction and special interdepartmental programs. The courses as listed here are subject to change. The University reserves the right to withdraw any course announced or to change the course fees shown herein.

HOURS OF INSTRUCTION

Classes are scheduled in the morning, afternoon, and evening. Evening and daytime sections of the same course are identical, are taught by the same staff instructors, and carry the same amount of credit.

EXPLANATION OF COURSE NUMBERS

First-Group Courses—Courses numbered 1–100 are planned for students in the freshman and sophomore years. With the approval of the advisor and the dean, they may also be taken by juniors and seniors. In certain instances, they may be taken by graduate students to make up undergraduate deficiencies or prerequisites to advanced courses, but they may not be taken for graduate credit.

Second-Group Courses—Courses numbered 101–200 are planned for students in the junior and senior years. Except for accountancy courses, they may be taken for graduate credit only upon the approval of the Dean and the instructor at the time of registration. Such approval is granted only with the provision that students must complete additional work to receive graduate credit. Accountancy courses numbered 101–200 may not be taken for graduate credit.

Third-Group Courses—Courses numbered 201–300 in the Graduate School of Arts and Sciences, the School of Government and Business Administration, the Elliott School of International Affairs, and the School of Education and Human Development are planned primarily for graduate students. They are open, with the approval of the instructor, to qualified seniors; they are not open to other undergraduates. Qualified seniors in the School of Government and Business Administration registering for these courses must have a 3.00 average, the prior approval of the department chairman who is responsible for the graduate courses, and the prior approval of the dean. Nondegree students who have not completed a bachelor's degree may not enroll in graduate courses offered by the School of Government and Business Administration.

Fourth-Group Courses—Courses numbered 301–400 in the Graduate School of Arts and Sciences are limited to graduate students, but they are primarily for doctoral candidates. Courses numbered 301–400 in the School of Government and Business Administration are limited to doctoral students. In the School of Education and Human Development fourth-group courses, numbered 301–400, are limited to graduate students with master's degrees from accredited institutions.

Fifth-Group Courses—Courses numbered 701 and 721 represent an ongoing program of curriculum innovation at GWU. The 701 number is used to designate experimental courses taught by individual faculty members. The 721 number designates innovative interdepartmental courses. The 751 number is used to designate courses sponsored jointly by two or more schools. Courses numbered in the 700 series are taught by scholars who hold appointments as University Professors. The numbers do not indicate the level of difficulty. Courses in this series range from freshman-level offerings to classes designed for seniors and graduate students. Unless the course description in the *Schedule of Classes* indicates that there

prerequisites or that an interview with the instructor is required prior to registration, 700 courses are open to all interested students, subject to their advisor's approval and the rules of the respective colleges.

KEY TO ABBREVIATIONS

The following abbreviations are used for course designations:

Accy	Accountancy	HSA	Health Services Administration
AdSc	Administrative Sciences	Hist	History
AHA	Allied Health Administration	Honr	Honors
AmCv	American Civilization	HmKn	Human Kinetics
Anat	Anatomy	HRD	Human Resource Development
Anes	Anesthesiology	HmSr	Human Services
Anth	Anthropology	Hmn	Humanities
ApSc	Applied Science	Idis	Interdisciplinary Courses
Art	Art	IAff	International Affairs
ArTh	Art Therapy	Ital	Italian
AM	Association Management	Japn	Japanese
Bioc	Biochemistry	Jour	Journalism
BiSc	Biological Sciences	Kor	Korean
BAd	Business Administration	Law	Law
Chem	Chemistry	Ling	Linguistics
CH&D	Child Health and Development	Mgt	Management Science
Chin	Chinese	Math	Mathematics
CE	Civil Engineering	ME	Mechanical Engineering
Clas	Classics	Med	Medicine
CIEn	Clinical Engineering	Micr	Microbiology
Comm	Communication	MStd	Museum Studies
CpMd	Computer Medicine	Mus	Music
CSci	Computer Science	NSc	Naval Science
Cnsl	Counseling	NSur	Neurological Surgery
Derm	Dermatology	Neur	Neurology
Econ	Economics	Ob&G	Obstetrics and Gynecology
Educ	Educational Leadership	OR	Operations Research
EE	Electrical Engineering	Opht	Ophthalmology
EMed	Emergency Medicine	Orth	Orthopaedic Surgery
EAd	Engineering Administration	Path	Pathology
EngS	Engineering Science	Phar	Pharmacology
Engl	English	Phil	Philosophy
EFL	English as a Foreign Language	Phys	Physics
E&RP	Environmental and Resource Policy	Phyl	Physiology
EnHe	Environmental Health	PCm	Political Communication
Envr	Environmental Studies	PSc	Political Science
ExSA	Exercise and Sport Activities	Port	Portuguese
ForS	Forensic Sciences	Pchi	Psychiatry and Behavioral Sciences
Fren	French	Psyc	Psychology
Gnet	Genetics	PAd	Public Administration
Geog	Geography and Regional Science	PubH	Public Health
Geol	Geology	PPol	Public Policy
Ger	Germanic Languages and Literatures	Rad	Radiology
Gern	Gerontology	Rel	Religion
HCS	Health Care Sciences	Rom	Romance Literatures
		Rmn	Romanian
		SLP	Service-Learning Program

Slav	Slavic Languages and Literatures	Surg	Surgery
Soc	Sociology	TrEd	Teacher Education
Span	Spanish	TCom	Telecommunication
SpEd	Special Education	TrDa	Theatre and Dance
SpHr	Speech and Hearing	T&T	Travel and Tourism
Stat	Statistics/Computer and Information Systems	Univ	University
		U&RP	Urban and Regional Planning
		Urol	Urology
		WStu	Women's Studies

SEMESTER HOURS OF CREDIT

The number of semester hours of credit given for the satisfactory completion of a course is, in most cases, indicated in parentheses after the title of the course. Thus, a year course giving 3 semester hours of credit each semester is marked (3-3), and a semester course giving 3 semester hours of credit is marked (3). One semester hour may be defined as one 50-minute period of class work or one laboratory period a week for one semester.

TIME OF COURSE OFFERINGS

Following most course descriptions is a parenthetical statement listing the semester (fall or spring) for which the course is scheduled. The term *academic year* is used only with two-semester courses and indicates that the first half of the course is to be offered in the fall semester and the second half in the spring semester. Not all offerings for the summer sessions are listed in this Bulletin. Students should consult the *Summer Sessions Announcement* for additional summer offerings. A *Schedule of Classes* is published each fall and spring semester to provide information concerning the time of course offerings.

ACCOUNTANCY

Professors A.J. Mastro, F.C. Kurtz, C.M. Paik, M.G. Gallagher, J. Hilmy (Chair), F.W. Seay
 Professorial Lecturers S.M. Farag, P. Ben Ezra, K.W. Viehe
 Associate Professor D.R. Sheldon
 Associate Professorial Lecturers L.G. Jordan, R.T. Laycock
 Assistant Professors K.E. Smith, L.C. Moersen, L.G. Singleton, P.R. Witmer (Visiting)
 Lin, N.F. Shiue (Visiting)
 Assistant Professorial Lecturer J.L. Eggleston

See the School of Government and Business Administration for programs of study in accountancy leading to the degrees of Bachelor of Accountancy, Master of Accountancy, Master of Taxation, and Doctor of Philosophy.

Accountancy courses numbered below 201 may not be taken for graduate credit. Accountancy courses numbered 201 and above may not be taken for undergraduate credit.

First Group

51 Introductory Financial Accounting (3)

Basic knowledge of financial accounting concepts and standards as an essential part of the decision-making process for the management of private investments and for business and government organizations. Students who have received credit for a similar financial accounting course cannot receive credit for this course. (Fall and spring)

52 Introductory Managerial Accounting (3)

Basic knowledge of managerial accounting concepts, procedures, analyses, and internal reports as an essential part of the decision-making process for public

and private-sector organizations. Prerequisite: Accy 51. Students who have received credit for a similar managerial accounting course cannot receive credit for Accy 52. (Fall and spring)

Second Group

- 101 **Cost and Budgetary Control** (3) Singleton
Cost behavior and volume-profit relationships, responsibility accounting, standard costs, cost structures for control and decision making, relevant costs, cost concepts, and variance analyses. Prerequisite: Accy 51-52. (Fall and spring)
- 111 **Financial Statement Analysis** (3) Hilmy, Shiue
Analysis and interpretation of financial statements for the guidance of management, directors, stockholders, and creditors. Prerequisite: Accy 51-52. (Fall and spring)
- 121 **Intermediate Accounting** (3) Mastro
In-depth study of accounting functions and basic theory; acquisition of assets and services, income and equity accounting, preparation and analysis of financial statements. Prerequisite: Accy 51-52. (Fall)
- 132 **Accounting Theory** (3) Hilmy, Segel
Current thought as reflected in the pronouncements of leading professional and accounting research associations, major contributions to accounting literature. Prerequisite: Accy 121. (Spring)
- 151 **Business Law for Accountants I** (3) Moersen
An introduction to the legal process and business law concepts for the professional accountant. Contracts, sales, commercial papers, business torts, and property, with concern for professional accounting certification; the interrelationship of accounting standards, taxation concepts, and auditing standards with business law, and the legal liability and ethical standards of professional accountants. Prerequisite: Accy 51-52. (Fall)
- 152 **Business Law for Accountants II** (3) Moersen
A broadening of business law concepts—partnerships, corporations, agency, secured transactions, trusts, wills, insurance, and securities. Legislation and litigation of the professional accountant's liability as an auditor and tax advisor. The interrelationship of accounting standards, taxation concepts, and auditing standards with business law, and the legal liability and ethical standards of professional accountants. Prerequisite: Accy 151. (Spring)
- 161 **Federal Income Taxation: Individuals** (3) Smith
A study of federal income tax concepts with primary emphasis on individuals. Prerequisite: Accy 51-52. (Fall)
- 162 **Federal Income Taxation: Corporations, Partnerships, Estates, and Trusts** (3) Smith
Federal income tax concepts applicable to corporations, partnerships, estates, and trusts; tax research and planning. Prerequisite: Accy 161. (Spring)
- 171 **Auditing** (3) Witmer
Principles and procedures of auditing: generally accepted auditing standards, internal control, audit objectives and reports, audit evidence, professional and legal responsibility, and audit of EDP systems. Prerequisite: Accy 121. (Fall)
- 181 **Accounting Systems** (3) Segel
Data processing considerations in the design and operation of accounting systems. Principles of internal control applicable to manual and automated accounting systems. Prerequisite: Accy 101, 121. (Fall)
- 190 **Special Topics in Accounting** (3) Staff
Experimental offering; new course topics and teaching methods. Prerequisite: Department approval.
- 191 **Advanced Accounting** (3) Mastro
Application of accounting theory to special areas: consolidated statements, business combinations, earnings per share, foreign exchange, price-level adjusted statements, source and application of funds. Prerequisite: Accy 121. (Spring)

199 Independent Study (3)

Assigned topics. Admission by permission of the Department Chair.
(Fall and spring)

Third Group**201 Financial Accounting (3)**

The role of accounting in the decision-making process of external parties; understanding, interpretation, and implementation of financial accounting. (Course equivalent: a similar graduate financial accounting course, or Accy 51-52, or two similar undergraduate courses.) (Fall and spring)

202 Management Accounting (3)

The role of accounting in the decision-making processes of management; understanding of how accounting influences resource allocation decisions in organization. Prerequisite: Accy 201. (Fall and spring)

211 Business Law for Accountants (3)

A study of the legal process and the principles and precepts of business law within the context of the political and legal environment of business. Corporations, partnerships, securities, the debtor-creditor relationship, trusts, wills, and the legal liability and ethical standards of the accountant. (Fall and spring)

221 Cost and Budget Analysis (3)

An advanced cost analysis course, with emphasis on comparative costs, quantitative techniques for cost data, managerial reporting systems, and manufacturing efficiency studies. Prerequisite: Accy 201 and 202. (Spring)

225 Financial Reporting Standards (3)

A critical understanding of the Financial Accounting Standards Board pronouncements (Standards) and the Security and Exchange Commission accounting Series Releases. Prerequisite: Accy 201 and 202. (Fall and spring)

232 Accounting Theory (3)

Alternative approaches to structuring a financial accounting theory and analysis of the various theoretical interpretations espoused in the process of formulating accounting standards. Prerequisite: Accy 225 or permission of the instructor. (Spring)

242 Business Income Taxation (3)

Federal tax concepts applicable to individuals, partnerships, fiduciaries, and corporations; emphasis on recognition of tax consequences attached to common business transactions and on tax planning. Not open to Master of Accountancy Master of Taxation candidates. (Fall and spring)

251 Accounting for Multinational Corporations (3)

A study of international accounting standards with emphasis on accounting for foreign conversion requirements compatible with domestic accounting consolidation standards. Prerequisite: Accy 201. (Fall and spring)

255 Business Combinations and**Not-for-Profit Organizations (3)**

Corporate concepts, business combination policies, including FASB, SEC, and AICPA business combination pronouncements. Structure analysis of combined and consolidated financial statements; accounting for not-for-profit and governmental organizations. Prerequisite or (with approval of instructor) concurrent registration: Accy 225. (Fall)

261 Federal Income Taxation (3)

A study of federal income taxation, covering gross income, deductions, credits, sales and other disposition of property, capital gains and losses, and timing. (Fall and spring)

262 Federal Income Taxation of Partnerships (3)

Federal income taxation of partnerships; formation, operation, distribution, and transfer of partnership interests. Prerequisite: Accy 242 or 261. (Spring)

- 263 **Federal Income Taxation of Corporations** (3) Gallagher
A study of federal income taxation of "C" and "S" corporations, covering formation, capital structure, nonliquidating distributions, complete liquidations, corporate accumulations, and the alternative minimum tax. Prerequisite or concurrent registration: Accy 242 or 261. (Fall and spring)
- 264 **Federal Taxation of Estates and Gifts** (3) Smith
A study of estates, gifts, and trusts covering gross estates, state transfer taxes, valuation problems, planning estate liquidity, complex trusts. Prerequisite: Accy 242 or 261. (Spring)
- 265 **Tax Practice and Procedure** (3) Smith
A study of federal tax practice and procedure, including organization of the IRS, ethical responsibilities, statute of limitations, examination of returns, claims for refund, penalties, and tax rulings. Prerequisite or concurrent registration: Accy 261. (Fall)
- 266 **Corporate Reorganizations and Affiliations** (3) Smith, Gallagher
Advanced study of corporate taxation: corporate reorganizations, multiple corporations, consolidated returns, and carryover of tax attributes. Prerequisite: Accy 263. (Spring)
- 267 **International Taxation** (3) Viehe
(Formerly Estate Planning)
A comparative analysis of the tax policies of countries that play a significant role in the international trading system. Prerequisite: Accy 201. (Spring)
- 268 **Deferred Compensation** (3) Gallagher, Smith
A study of tax aspects of deferred compensation arrangements, including qualified pension, profit-sharing, and stock bonus plans; retirement plans for self-employed individuals; individual retirement accounts; and stock options. Prerequisite or concurrent registration: Accy 261. (Spring)
- 269 **Tax Research and Planning** (3) Smith
(Formerly Accy 260)
A study of the legislative, administrative, and judicial sources of federal tax law. Emphasis on the use of tax research tools in locating, interpreting, and communicating tax law and on the complementary relationship between legal research and quantitative decision making. Prerequisite or concurrent registration: Accy 261. (Fall)
- 275 **Contemporary Auditing Theory** (3) Kurtz, Witmer
Study of advanced independent (external) and internal auditing concepts: operational auditing, application of statistical sampling to auditing, audit of electronic data processing systems, computer applications, ethics. Prerequisite: Accy 225. (Spring)
- 282 **Accounting Information Systems and EDP** (3) Segel
Development and application of accounting system theory, including analysis, design, and implementation. Integration of electronic data processing, accounting systems, and management information systems. Prerequisite: Accy 201. (Fall)
- 290 **Special Topics in Accounting** (3) Staff
Experimental offering; new course topics and teaching methods. May be repeated once for credit. (Fall and spring)
- 291 **Financial Statement Analysis** (3) Hilmy
Analysis and interpretation of financial statements for the guidance of management, directors, stockholders, and creditors; establishing firms' business profiles; balance-sheet restructuring and the identification of financial and accounting correction measures from financial statements. Prerequisites: Accy 201. (Fall and Spring)
- 297 **Professional Accountancy and Business/Government Policy** (3) Sheldon, Mastro
A study of the development process of professional accounting standards through examination of the socioeconomic, political, legal, and management process. Management policy concerns for alternatives in the selection of account-

ing standards. Prerequisite: Master of Accountancy or Master of Taxation studies (Fall and spring)

298 Directed Readings and Research in Accounting (3)

Fourth Group

Fourth-group courses are primarily for doctoral students and are offered as the department requires. The courses are open to selected master's students upon petition approved by the Associate Dean.

- 311 **Seminar: Public-Private Sector Institutions and Relationships** (3)
An analysis and critique of alternative theoretical frameworks for describing, understanding, and predicting the nature, values, and actions of American public and private institutions. Problems, potentials, and alternatives for structuring public and private institutional arrangements to meet the needs of society.
Prerequisite: doctoral degree candidate status.
- 391 **Doctoral Seminar in Accounting** (arr.)
Reasoning and research in technical areas of accounting; theoretical issues and their application to practice; conceptual themes in professional literature; comparative accounting research analyses. (Fall and spring)
- 398 **Advanced Reading and Research** (arr.)
Limited to doctoral candidates preparing for the general examination. May be repeated for credit.
- 399 **Dissertation Research** (arr.)
Limited to doctoral candidates. May be repeated for credit.

ADMINISTRATIVE SCIENCES—GRADUATE PROGRAM

Professors J. Zeidner (Director), E. Cherian (Visiting)

Professorial Lecturers A. Adams, J. Allen, J. Baker, C. Chambers, H. Eskew, J. Harp, O. Jacobs, E. Johnson, J. Robins, R. Sadacca, M. Sashkin

Associate Professor B.S. Hodges III

Associate Professorial Lecturers R. Belous, J. Brilliant, J. Georgatos, B. Kutnick, T. Roper, L. Tanner, R. Manning

Assistant Professor K. Hamel

Assistant Professorial Lecturers W. Camara, D. Moore, M. Rumberg

Instructor E. Bailey

The Graduate School of Arts and Sciences offers an interdepartmental program leading to the degree of Master of Arts in the field of administrative sciences. The program has been designed for public and private sector professionals who wish to increase their management competence and to improve their career potential. The program provides knowledge and skills in the social, behavioral, quantitative, and information sciences.

Master of Arts in the field of administrative sciences—Prerequisite: a bachelor's degree with a B average from an accredited college or university.

Required: the general requirements stated under the Graduate School of Arts and Sciences, including 36 semester hours of course work. There is no thesis requirement. Students must pass a Master's Comprehensive Examination. For the core curriculum, students select five of the following courses with faculty approval: AdSc 209, 221, 225, 217; OR 233; Psyc 244; Stat 104. A student may specialize in management information systems, human resources management, or organizational management. The management information systems track requires seven of the following courses, chosen with faculty approval: AdSc 201, 202, 203, 205, 206, 207, 208, 219, 225. The human resources management track requires AdSc 211, 212, 213, 214, 220, 222, 223. The requirements for the organizational management track are Psyc 245, 246, 260; AdSc 215, 216, 217, 240.

201 Principles of Management Information Systems (3)

An overview of the management information systems specialty track. Integration of management, information, and systems concepts into a unified framework. Relationship of structure and organizational objectives to information, systems, and technology.

- and management. General systems theory: open, closed, deterministic, and probabilistic systems; decoupling and integration; feedback loops. Management information systems development, design, implementation, and evaluation strategies. Prerequisite: AdSc 221 or permission of faculty advisor.
- 202 **Database Management and Operating Systems (3)**
Fundamental concepts of operating systems and database management systems that serve as the foundation for information system design and development. Technological framework for design and implementation of a computerized management information system. Hardware and software configuration, design strategies and alternatives, and analytical techniques. Operating systems, dynamic storage management, virtual memory process management, control languages, and systems routines. Applications of data-and-file structuring approaches. Database management systems use and analysis. Prerequisite: AdSc 201 and the administrative sciences core curriculum except OR 233; degree candidacy or permission of instructor.
- 203 **Data Communications and Networking (3)**
Advanced concepts in analysis and development of computer-based information systems. Network, structures, design, and management. Distributed data processing techniques and local and network design; development of telecommunication procedures, including forms of communication, transmission media, communication software. Applications of file and report-writing facilities in microcomputer and mainframe environments. Comparison of alternative implementation strategies used in the design of management decision-making systems. Prerequisite: AdSc 201 and the administrative sciences core curriculum except OR 233; degree candidacy or permission of instructor.
- 205 **Decision Support Systems (3)**
Analysis and comparison of existing frameworks, techniques, and tools for assisting management in the decision-making process. Overview of alternative approaches (e.g., centralized vs. decentralized control) to the design, development, and implementation of decision support systems. Hardware and software limitations of alternative approaches, focusing on anticipated future technological improvements. Introduction to computer-based decision-making aids and simulations. Contemporary issues and problems in effective implementation of decision support systems. Prerequisite: AdSc 202, 203; OR 233.
- 206 **Artificial Intelligence and Expert Systems (3)**
An introduction to the principles of artificial intelligence, including its practical applications in robotics, natural language programs, and advanced computer input-output devices. Review and analysis of various expert systems, including tools and generators, classification vs. diagnostic type systems, and building modules. Examination of the design of expert systems, including development of the knowledge base and role of the knowledge engineer. Prerequisite: AdSc 202 and 203.
- 207 **Information Systems Design (3)**
Introduction to the design and analysis of information systems. The systems development life cycle, analysis of requirements, design of logical systems, analysis and design of user interfaces, system documentation and specifications. Planning for system implementation, evaluation, and maintenance. Prerequisite: AdSc 205.
- 208 **Principles of Information Resource Management (3)**
Basic principles of information resource management, including the use and impact of information in organizations; the relationship between information, knowledge, and management; end-user development of information systems; management of technology in an information economy. Prerequisite: AdSc 202, 203.
- 209 **Management Systems (3)**
An overview of management systems using the systems approach to management and problem solving: understanding long-range planning; management of complex projects using computer systems; use of work breakdown structures; criti-

- cal-path planning systems and network analysis; cost-effectiveness analysis; program evaluation.
- 211 Psychology of Personnel Management (3)**
An overview of the human resources management specialty track. An examination, from a psychological systems perspective, of a unified human resources management program, including integration of human resources planning, analysis, employee selection, placement, training, performance evaluation, compensation management, and management information systems. Analysis of the psychological theories underlying major personnel systems.
- 212 Current Issues in Personnel Testing and Selection (3)**
An overview of psychometric, legal, and organizational issues in personnel employment testing and selection, with emphasis on reliability and validity of selection instruments and the utility of selection systems. Analysis of the legal environment, including test fairness in selection, adverse impact, and statistical models of test fairness and specific selection techniques, such as the employment interview, psychological tests, work samples, and assessment centers. Prerequisite: Stat 104 and AdSc 211.
- 213 Managerial Leadership, Motivation, and Work (3)**
Application of the scientific study of leadership to the managerial environment. Analysis of leadership behavior and managerial activities. Synthesis of major theories of leadership, including trait, behavior, situational, and power/influence. Synthesis of motivational theories, including cognitive and cognitive-behavioral perspectives. Application of theories at various levels of formal organizations beyond the interpersonal perspective. Prerequisite: AdSc 211.
- 214 Personnel Training and Performance Appraisal Systems (3)**
Analysis of training and appraisal techniques in contemporary organizations. Training topics include development of management training programs and training evaluation techniques. Appraisal topics include development of performance appraisal techniques, evaluation of appraisal systems, maintenance of relationship of rewards to performance, and the appraisal interview. Analysis of training and rating systems that satisfy legal requirements and stimulate employee productivity. Prerequisite: AdSc 212.
- 215 Current Issues in Organizational Design (3)**
Analytical framework for the design of complex organizations, including hierarchical bureaucratic, functional, and matrix structures. Examination of organizational technologies, control and boundaries, including design approaches emanating from Europe, Japan, and the United States, drawing on system theory and moving toward broader organizational design issues.
- 216 Theories and Management of Planned Change (3)**
A systems view of organizational change and development, including intervention strategies, data collection diagnosis, and the integration and management of system-wide organizational change.
- 217 Productivity and Human Performance (3)**
Definitions and measurement of individual, team, and organizational productivity, effectiveness, and efficiency. Models for the analysis of organizational individual productivity and productivity growth in industrialized nations. Techniques for increasing productivity.
- 218 Design of User-Computer Interface (3)**
Study of user-computer interaction. Presentation of the theoretical basis of user-computer interaction, along with integration of research findings and guidelines for systems developers and users. Information processing topics include input, storage and retrieval, display, dialogue. Interaction topics include environmental factors, user variables, help functions, system design, and multiple users. Prerequisite: AdSc 201; degree candidacy or permission of instructor.
- 219 Information Security and Policy (3)**
Computer fraud and effective countermeasures for computer system security. The social and legal environment of information systems, including data privacy.

and ethics in database management. Information access policy, data security, contracts. Antitrust and other business implications of policies, transborder data flow, technology transfer, electronic funds transfer systems, mail, criminal justice information systems, cross-cultural differences, computer infringement of copyright, and protection of property rights in software. Prerequisite: AdSc 202, 203.

220 Organizational Decision Making (3)

Examination of processes in organizational decision making; the state of theory; research and applications for the practicing manager. Topics include managerial style and decision making, problem discovery and diagnosis, search for the design of solution, evaluation and choice, group decision making, decision aids and support systems, performance and decision effectiveness, and risk analysis and decision making. Prerequisite: AdSc 211.

221 Introduction to Computers, Programming, and Information Systems (3)

Introductory concepts in computer architecture, hardware, and software and in management information systems. Information systems principles, including data processing applications, data communications, database management, and operating systems. Principles of good programming style, expression, and documentation. Introduction to program structures, structured modularization, structured programming concepts; stepwise refinement and top-down programming. Computer-based utilization of management information systems for planning, control, and decision-making functions.

222 Theory and Practice of Compensation Management (3)

Analysis of contemporary compensation systems from both theoretical and practical perspectives, including the latest decisions of courts and regulatory agencies. Examination of motivational theories of pay, determinants and effects of salary structures on performance, incentive plans, performance-based compensation, and managerial compensation systems. Prerequisite: AdSc 214.

223 Collective Bargaining (3)

Analysis of federal and state employee relations laws and regulations. Topics include the bargaining environment, wage and benefit issues in arbitration, arbitration of grievances, and employee relations in non-union organizations. Behavioral theories of labor negotiations. Prerequisite: AdSc 222.

225 Management Information Systems Development (3)

The capstone course of the management information systems track. Individual and team working experience in the actual design, development, implementation, and evaluation of a computerized management information system. Synthesis of organizational and technological aspects of development of information systems, with emphasis on needs assessment, organizational structures, and comprehensive evaluation techniques. Utilization of micro and mainframe environments in the design of the project. Prerequisite: AdSc 205, 206, 219.

240 Corporate Policy and Social Responsibility (3)

Examination of the process of policy analysis, development, and implementation. Analysis of policy mechanisms, including technology assessment, research and development, regulatory and control mechanisms. Illustrative examples of policy issues and problems drawn from government and industry, covering a broad range of substantive areas.

295 Directed Research in Administrative Sciences (arr.)

Supervised research in selected fields within administrative sciences. Admission by prior permission of faculty advisor and instructor.

298 Directed Readings in Administrative Sciences (arr.)

Supervised readings in selected fields within administrative sciences. Admission by prior permission of faculty advisor and instructor.

AMERICAN STUDIES PROGRAM

University Professor M.F. Cunliffe

Professors R.H. Walker, Jr., C.C. Mondale, B.M. Mergen, H.F. Gillette, Jr. (Director)

J.M. Vlach

Adjunct Professor F. Gutheim

Professorial Lecturers L. Miller, W.E. Washburn

Associate Professors J.O. Horton, R.W. Longstreth, P.M. Palmer

Adjunct Associate Professors P.J. Cressey, J. Warren-Findley

Associate Professorial Lecturers B.G. Carson, G. Kulik

Undergraduate Faculty Advisory Committee

H.F. Gillette, Jr. (Chair), D. Bjelajac, C.J. Deering, P.P. Hill, R.L. Humphrey, O. Seaver

R.W. Stephens, D.D. Wallace, Jr., A.M. Yezer

Graduate Committee

W.H. Becker, M.F. Cunliffe, H.F. Gillette, Jr., J.O. Horton, H.L. LeBlanc, R.W. Longstreth

B.M. Mergen, C.C. Mondale, P.M. Palmer, L.P. Ribuffo, C.W. Sten, J.M. Vlach, D.D. Wallace

Jr., R.H. Walker

Bachelor of Arts with a major in American civilization (field-of-study)—The following requirements must be fulfilled:

1. The general requirements stated under Columbian College of Arts and Sciences.
2. Prerequisite course—AmCv 71–72. Other introductory courses as needed for upper division courses in a discipline as described below.

3. An American studies core, which may be obtained by taking AmCv 167, AmCv/Hist 171–72, and at least 9 hours chosen from AmCv/Hist 771, AmCv/Engl/Hist 772, AmCv/Engl 160, 161, 162; also expected is a specialized focus, normally developed through at least 12 hours of second-group courses in a discipline or theme chosen so as to provide a structured approach to the range of American civilization (accepted approaches include sociology, history, literature, history of art and architecture, political science, philosophy and religion, gender studies, urban studies). The proseminar, AmCv 179–80, should be taken in the last full year of residence in preparation for the comprehensive examination that covers the core courses and special discipline or theme.

Special Honors will be awarded to students who fulfill the requirements for the major with a grade point average of 3.5 or better in the core and related courses and 3.0 or better overall and who receive honors on the comprehensive examination.

At least two years of a foreign language and knowledge of statistics or computer programming in the humanities and social sciences is strongly recommended. Students should consult at least once a semester with their American studies advisor.

Minor in American civilization—Requirements are 18 hours of 100-level courses including AmCv 167 and AmCv/Hist 171–72 plus 9 hours chosen from the following options: (1) AmCv/Hist 771, AmCv/Engl/Hist 772, AmCv/Engl 160, 161, 162; (2) related courses in American civilization, such as topics in urbanism, gender, black culture, folklife, philosophy and religion, literature, art and/or architecture.

Master of Arts in the field of American civilization—Prerequisite: the degree of Bachelor of Arts in American civilization or a related field.

Required: the general requirements stated under the Graduate School of Arts and Sciences, including (1) AmCv 271–72; (2) 18 semester hours chosen in a carefully planned pattern of study of American civilization; (3) a comprehensive examination covering general competence in American civilization and the candidate's area of concentration; a thesis (6 semester hours) written on a topic approved by the student's advisor or, with permission of the advisor and the director of the program, 12 semester hours of additional course work, 6 of which must be research oriented. Special options in the master's degree program include the following.

1. *A concentration in museums and material culture*—Course emphasis on the use of artifacts in historical research, offered in association with the Smithsonian Institution. Required in addition to the general requirements outlined above: AmCv 250. Required

mended: courses in decorative arts, architectural history, historical archaeology, history of technology, and history of art. Programs specific to museum studies and museum education are also available.

2. A concentration in *historic preservation*—Course emphasis on interpreting issues in historic preservation through a humanistic framework. Prerequisite: a course in American architectural history. For this concentration, the general requirements outlined above are amended as follows. Required: 36 semester hours, consisting of 12 hours of American civilization courses including AmCv 271-72; 18 hours of historic preservation courses including AmCv 277-78; a thesis (6 hours). A comprehensive examination, as outlined above, is required.

3. A concentration in *folklife*—Course emphasis on the expressive culture of American folk societies and theories and methods for its evaluation and interpretation. Required in addition to the general requirements outlined above: AmCv 254, 257. Recommended: courses in topics related to folklife, such as regionalism, oral history, material culture, vernacular architecture, and social and cultural history.

Doctor of Philosophy in the field of American civilization—This program combines work in the humanities and/or social sciences as preparation for research and teaching, with the option of stressing preparation for museum and library careers. Applicants are required to have an adequate background in the humanities and/or social sciences as they apply to the understanding of American civilization.

Required: the general requirements stated under the Graduate School of Arts and Sciences and successful completion of a reading knowledge examination in an approved foreign language. Candidates must pass a General Examination in four areas within three calendar years of matriculation. American cultural history is the only required field. Three other fields are elected with approval of the advisory committee; one field must represent foreign coverage. Other areas may be chosen from the following groups: (1) American phy, or religion; Afro-American history; historic preservation; or some areas of the social and behavioral sciences; (2) in association with staff at the Library of Congress—supervised cartography, cross-cultural studies, government documents, graphic arts, music, motion pictures and recorded sound, printing and bookmaking; (3) in affiliation with the Smithsonian Institution—supervised studies including aerospace history, decorative arts, ethnology, history of science, history of technology, industrial archaeology, material aspects of American civilization, and various fields in the history of art. Additional areas of study may be arranged within the University and in both the Library of Congress and the Smithsonian. Special announcements concerning these programs are issued periodically and are available in the office of the Director of the American Studies Program.

Research fields for the dissertation may be chosen from any of the above except those dealing with the culture of an area outside the United States.

First Group

50 Washington, D.C.: History, Culture, and Politics (3)

Gillette

Introduction to interdisciplinary methods of studying the contemporary city. Major problems of metropolitan life, past and present, analyzed by faculty and community leaders. Emphasis on experiential team projects. Same as Hist/PSc/U&RP 50. (Fall)

71-72 Introduction to American Civilization (3-3)

Mergen, Vlach

Themes and issues in American civilization since Colonial times, with emphasis on their contemporary importance. (Academic year)

Second Group

115 Field Program in Meso-American Archaeology and History (3 or 6)

Humphrey, Mergen

Joint offering of the American Studies Program and the Department of Anthropology. Field study in Mexico and Central America. (Summer)

- 144 **Explorations in Historical Geography** (3)
Examination of selected themes in the cultural geography of the United States over the course of its history, in relation to an overview of the historical geography of the country. Same as Geog 144. (Spring)
- 145 **Folk Arts in America** (3)
Same as Art 145.
- 160 **Early American Literature and Culture** (3)
Same as Engl 160.
- 161 **American Romanticism** (3)
Same as Engl 161.
- 162 **American Realism** (3)
Same as Engl 162.
- 165 **Introduction to Folklore** (3)
Survey of the forms of folk expression, including verbal, art, music, dance, and material culture. Examination of the materials and methods of folklore research. Same as Anth 165. (Academic year)
- 167 **Themes in U.S. Cultural History** (3)
An examination of the special ideas, values, and modes of expression that have made American life distinctive, as revealed through a variety of sources, including fiction, popular media, photography and the arts, and material culture. Same as Hist 167. (Fall)
- 171-72 **U.S. Social History** (3-3)
Same as Hist 171-72.
- 173 **Afro-American History** (3)
Survey of the Afro-American experience, emphasizing the contributions of African Americans to, and their impact upon, American history. Same as Hist 173. (Spring)
- 174 **Afro-American Literature** (3)
Study of texts representing the experience of black Americans and the ideological social forces that have shaped their lives and writings. Same as Engl 174. (Fall)
- 175-76 **American Architecture** (3-3)
Examination of selected topics in American architecture from the 17th century to the present. Stylistic properties, form and type characteristics, technological developments, and urbanistic patterns are introduced as a means of interpretation of historic meaning. Buildings are analyzed both as artifacts and as signs of social, cultural, and economic tendencies. U&RP/AmCv 175: 1600-1800; U&RP/AmCv 176: 1860-present. Same as Art 176 and 191. (Academic year)
- 177 **Introduction to Historic Preservation** (3)
Washington, D.C., will be the primary exhibit for the study of historic preservation as it has developed over the past century. Experience with preservation issues as shown by examples in other localities will also be discussed. Lectures, class discussions of the readings, and field trips to neighborhoods and landmarks subjected to preservation efforts. Same as U&RP 177. (Spring)
- 179-80 **Proseminar in American Civilization** (3-3)
Coordinating course for seniors majoring in American civilization. (Academic year)
- 184 **Contemporary American Civilization** (3)
Examination of the patterns of contemporary American life through study of literature, the arts, and political, social, cultural, and economic trends.
- 185 **History of Women in America** (3)
Same as Hist 185.
- 186 **U.S. Urban History** (3)
History of the American city from colonial foundations to the present, focusing on relationships between social and economic forces with physical form. Special emphasis on transitions from pre-industrial to industrial to metropolitan forms, with attention to implications for public policy and historic preservation. Same as Hist 186. (Fall)

- 192 **The American Cinema** (3) Mergen
History and criticism of American films. The course will enable the student to recognize and evaluate cinema techniques, to express the evaluation clearly in writing, and to understand the role of films in the context of American culture. Same as Art 192. (Spring and summer)
- 193 **Field and Laboratory Research in Archaeology** (3) Cressey
Joint offering of the American Studies Program and the Anthropology Department. Field and/or laboratory techniques and interpretation. Topics may include excavation methods, recording photography, preservation, stratigraphy and environmental reconstruction, typology, use-wear analysis, and spatial analysis. Specific research area and topics announced in the *Schedule of Classes*. (Summer)
- 194 **Introduction to Historical Archaeology** (3) Cressey
Joint offering of the American Studies Program and the Anthropology Department. Survey of the basic data and methods of research in the material culture of recent history. (Spring)
- 195 **Independent Study** (3) Staff
Open to a limited number of American Civilization majors as directed research or as an internship with a Washington museum or historical society. Approval of advisor required. (Fall and spring)
- 197 **Oral History and Interview Techniques** (3) Mergen, Gillette
Introduction to theory and practice of obtaining and using historical data through recorded interviews. Examination of major published works in oral history. Particular attention to ongoing oral history projects in the Washington area. Same as Anth/Hist 197. (Summer)
- 198 **Special Topics in American Studies** (3) Staff
May be repeated for credit provided the topic differs. Admission by permission of instructor.

Third Group

- 225 **History of Washington, D.C.** (3) Gillette
The social history of Washington, from village to metropolis, with emphasis through field trips on the evolution of residential neighborhoods and related issues of historic preservation and conservation. Same as Hist 225. (Spring)
- 254 **Folklore Theory** (3) Vlach
An intellectual history of American folklore research; analysis of particular theories and methods. Same as Anth 254. (Spring)
- 255-56 **Research Orientation Seminar: Americana Collections** (3-3) Warren-Findley
Examination of major themes in American civilization as they relate to the collections in major Washington-area libraries. Full-year course with direct exposure to Library staff and materials. May be taken either as a conventional seminar culminating in a research paper or as preparation for a doctoral reading field, "Research Materials for the Study of American Life: Their Content, Collection, Arrangement, and Use." (Alternate academic years)
- 257 **Seminar: American Folklife** (3) Vlach
Research and discussion on the traditional cultures of various geographical regions of the United States. Analysis of folk art, craft, and architecture; regional and ethnic identities. Same as Anth 257. (Fall)
- 259 **Topics in American Folklife** (3) Staff
A seminar devoted to a variety of subjects related to folklore and folklife, such as public-sector folklife policy, folk music, oral literature, or ethnic folklore and culture. The specific topic will be determined by the interests of available faculty. May be repeated for credit. Same as Anth 259.
- 260 **Women in the American Work Force** (3) Palmer
Joint offering of the American Studies Program and the Women's Studies Program. Multidisciplinary analysis of women's role in the labor force and gender-

- based division of labor. Views of women's work in the home and out; interrelationships of women in and out of the work force; class, race, and differences. (Spring)
- 271-72 **Seminar: Scope and Methods in American Studies** (3-3)
Consideration of American studies as an area for research and teaching; introduction to bibliography. Required of candidates for the degree of Master of Arts in field of American civilization. (Academic year)
- 275 **The Politics of Historic Preservation** (3)
Same as U&RP 275.
- 276 **Economics of Preservation** (3)
Same as U&RP 276.
- 277-78 **Historic Preservation: Principles and Methods** (3-3)
Joint offering of the American Studies Program and the Urban and Regional Planning Department. Same as Hist 277-78. Exploration of scope and purpose of the preservation movement in the United States with focus on developments from the 1960s to the present. Topics covered include the emergence of preservation theories in the 19th century, relationships between attitudes toward the past and toward design, the intent and impact of legislation, organizational dynamics, approaches to documentation, the concept of significance, and preservation as an instrument of change. Discussions with representatives of organizations and public agencies supplement class lectures. (Academic year)
- 282 **Seminar in American Architecture** (3)
Advanced research problems addressing artistic, cultural, social, technical, and urbanistic aspects of American architecture in the 19th and 20th centuries. Topics vary. Prerequisite: AmCv 175 or 176 or equivalent, or permission of instructor. (Spring, alternate years)
- 286 **Interpretation in the Historic House Museum** (3)
Same as Educ 286.
- 289-90 **Seminar: Topics in American Civilization** (3-3)
Research problems selected by the instructor. Preparation in American cultural history or other area appropriate to the topic of the seminar. (Academic year)
- 294 **Field and Laboratory Research in Archaeology** (3)
Joint offering of the American Studies Program and the Anthropology Department. Field and/or laboratory techniques and interpretation. Topics may include excavation methods, recording photography, preservation, stratigraphy, environmental reconstruction, typology, use-wear analysis, and spatial analysis. Specific research area and topics announced in the *Schedule of Classes*. May be repeated for credit. Same fieldwork as AmCv 193 but with additional research and research required. (Summer)
- 295 **Independent Study** (arr.)
Limited to master's candidates. Written permission of instructor required. (Fall and spring)
- 299-300 **Thesis Research** (3-3)
(Fall and spring)

Fourth Group

- 351 **Vernacular Architecture** (3)
Examination of selected regional and ethnic traditions in American building. Survey and field techniques, comparative study of related types of objects, use of documentary sources. (Spring)
- 355-56 **Practicum: Advanced Library Research** (3-3)
Practical problems in control of library materials with emphasis on collection of major area libraries. Prerequisite: AmCv 255-56. (Academic year)
- 379-80 **Readings in American Cultural History** (3-3)
For students preparing for the Doctor of Philosophy general examination in field of American civilization. (Academic year)

- 398 **Advanced Reading and Research** (arr.) Staff
 Limited to students preparing for the Doctor of Philosophy general examination.
 May be repeated for credit. (Fall and spring)
- 399 **Dissertation Research** (arr.) Staff
 Limited to Doctor of Philosophy candidates. May be repeated for credit. (Fall and spring)

COURSES OFFERED IN AFFILIATION WITH THE SMITHSONIAN INSTITUTION

The Graduate School of Arts and Sciences is affiliated with the Smithsonian Institution's Program for Graduate Students in the History of American Civilization. The following courses are offered at the National Museum of American History and at the National Portrait Gallery by members of their staffs.

Third Group

- 250 **Orientation Course: Material Aspects of American Civilization** (3) Washburn, Mergen
 Familiarization with the historical collections of the Smithsonian Institution and introduction to opportunities for research and publication based on historical objects. Required of all students in the master's and doctoral programs affiliated with the Smithsonian Institution. (Fall)
- 251 **Museum Research and Education** (3) Washburn and Staff
 Supervised work and/or study under the direction of Smithsonian staff members and research associates—museum visitor behavior, costumes and furnishings, decorative arts, and photography as historical documentation. (Fall and spring)
- 252-53 **American Decorative Arts** (3-3) Carson
 Concepts of visual recognition and evaluation of surviving domestic artifacts from the 17th, 18th, and 19th centuries, including those made of wood, clay, glass, metal, and cloth. AmCv 252 is prerequisite to AmCv 253. (Academic year)
- 284 **Seminar: Studies in American Art and History** (3) Staff
 Joint offering of the American Studies Program and the Art Department. Exploration of selected problems and themes in American cultural history involving the use of artistic materials in different media; emphasis on methodology and analytic techniques. May be repeated for credit.
- 285 **Technology, Labor, and American Society** (3) Kulik
 Selected readings on the interrelations among technology, labor, and society in the United States.

Fourth Group

- 352 **Research in Selected Aspects of American Civilization** (3)
 Supervised study and/or fieldwork in selected subject areas related to the activities of the Smithsonian Institution. (Fall or spring)
- 394 **Advanced Reading and Research** (arr.)
 Limited to students preparing for the Doctor of Philosophy general examination in fields offered in affiliation with the Smithsonian Institution. May be repeated for credit. (Fall and spring)
- 395 **Dissertation Research** (arr.)
 For Doctor of Philosophy candidates preparing dissertations significantly related to the material aspects of American civilization. Students work under curatorial supervision at the Smithsonian Institution. May be repeated for credit. (Fall and spring)

ANATOMY—GRADUATE PROGRAM

Professors F.D. Allan (Acting Chair), T.N. Johnson, E.N. Albert, M.J. Koering, K.E. Johnson
Associate Professors F.J. Slaby, R.J. Walsh, K.D. Peusner, J.M. Rosenstein, R.C. Babin

Doctor of Philosophy in the field of anatomy—Required: The general requirements stated under the Graduate School of Arts and Sciences. Candidates must demonstrate proficiency in biostatistics and computer science. There will be a comprehensive written and oral examination that will cover at least three areas of anatomical studies.

Research fields: cell ultrastructure, embryology, gross anatomy, histology, neuroanatomy, and physical anthropology.

Faculty approval is required for all courses.

- 202 **Gross Anatomy** (6) Slaby and S
Regional dissections of adult cadaver supplemented with lectures and sections.
Laboratory fee, \$30. (Fall)
- 203 **Human Developmental Anatomy** (1) K. Johnson
Origin and development of human body; emphasis on study of human development in interpreting anatomical anomalies. (Fall)
- 204 **Neuroanatomy** (2) Peusner
Gross and microscopic anatomy of central nervous system and special senses.
Laboratory fee, \$13.
- 205 **Human Microscopic Anatomy** (3) Koering and S
Microscopic structure of cells, tissues, and organs of the human body. Laboratory fee, \$20. (Fall)
- 212 **Neurobiology** (3) Koering and S
An integrated survey of the structure and function of the human nervous system. Includes lecture, clinical demonstration, and laboratory. Same as Phyl 212. Laboratory fee, \$25.
- 221–22 **Seminar** (1–1)
Research reports and discussions of special topics by guest lecturers, staff, and students. (Academic year)
- 249 **Introduction to Anatomical Research** (1)
Major research techniques as applied to biological materials in the various anatomical disciplines. (Fall)
- 252 **Physical Anthropology** (1)
Variations in humans and factors affecting them; human evolution and differences; anatomy and culture of ancient humans. (Spring)
- 253 **Brain-Tissue Interactions** (1) Walsh, Rosenstein
Interactions of the central nervous system with the muscular, sensory, and endocrine systems. Student presentations and clinical aspects. Prerequisite: Anat/Phyl 212. (Spring)
- 254 **Fetal Anatomy** (2)
Dissection of midgestational fetus. Comparison of fetal and adult structures. Limited enrollment. Laboratory fee, \$10. (Spring)
- 256 **Teratology** (1) K. Johnson
Introduction to teratologic principles and techniques, with emphasis on experimental design. Limited enrollment.
- 260 **Electron Microscopy in Cellular Biology—Lecture** (1)
Introduction to the morphology of the cell and its relationship to electron microscopic techniques. (Spring)
- 261 **Electron Microscopy** (4) Koering
Introduction to the routine processing of specimens; preparation and interpretation of micrographs. Limited enrollment. Admission by permission of instructor. Prerequisite or concurrent registration: Anat 260. Laboratory fee, \$25. (Spring)
- 262 **Gross Anatomy of Upper and Lower Extremities** (2)
Detailed dissection, supplemented by x-ray anatomy; discussions, assignments. Limited enrollment. Laboratory fee, \$10. (Spring)

- 264 **Gross Anatomy of Head and Neck** (2) Staff
Detailed dissection, supplemented by x-ray anatomy; discussions, assigned reading. Limited enrollment. Laboratory fee, \$10. (Spring)
- 266 **Gross Anatomy of Thorax and Abdomen** (2) Staff
Detailed dissection, supplemented by x-ray anatomy; discussions, assigned reading. Limited enrollment. Laboratory fee, \$10. (Spring)
- 268 **Gross Anatomy of Pelvis, Perineum, and Lower Extremity** (2) Staff
Detailed dissection, supplemented by x-ray anatomy; discussions, assigned reading. Limited enrollment. Laboratory fee, \$10. (Spring)
- 276 **Advanced Studies in Anatomy** (1) Staff
Lectures and conferences on selected anatomical subspecialties—endocrinology, teratology, growth, and others. May be repeated for credit. (Spring)
- 277 **Special Topics in Neuroanatomy** (3) Bohn, Peusner, Rosenstein, Walsh
Selected topics regarding the structural and functional organization of the nervous system. May be repeated for credit. (Spring—alternate years)
- 288 **Surface Anatomy and Radiology** (1) Slaby
Lectures on areas of clinical importance. (Spring)
- 289 **Biochemical and Morphological Techniques in Cell Biology** (3) Slaby
The application of biochemical and electron micrographic techniques used in cell biology research. Limited enrollment.
- 295 **Research** (arr.) Staff
Content differs each time course is offered; may be repeated once for credit. Fee to be arranged. (Fall and spring)
- 398 **Advanced Reading and Research** (arr.) Staff
Limited to students preparing for the Doctor of Philosophy general examination. May be repeated for credit. (Fall and spring)
- 399 **Dissertation Research** (arr.) Staff
Limited to Doctor of Philosophy candidates. May be repeated for credit. (Fall and spring)

ANTHROPOLOGY

Professors R.M. Krulfeld, R.L. Humphrey, Jr., A.S. Brooks
Associate Professor D.H. Ubelaker
Adjunct Professors S.L. Simons (Chair), C.J. Allen
Associate Professors C.R. Rose, P.J. Cressey
Assistant Professors S. Hertz, C. Cheney, G. McEwen
Assistant Professors J.C. Kuipers, R.N. Rasnake (Visiting)
Assistant Professors R.K. Evans, B. Hackett, T. Kavanagh, N.L. Benco, P.S. Maloof, H.D. Sues
Lecturers A.G. Webster, M.E. Chambers

Bachelor of Arts with a major in anthropology (departmental)—The following requirements must be fulfilled:

1. The general requirements stated under Columbian College of Arts and Sciences.
2. Prerequisite courses—Anth 1, 2, 3, and 4.
3. Required courses in other areas—(a) 12 semester hours, or equivalent, of introductory anthropology (Department); (b) 6–12 semester hours of course work in related departments. Recommended for ethnological emphasis are courses in economics, political science, psychology, and sociology; for archaeological emphasis, courses in American civilization, history, geography and regional science, geology, and history; for emphasis in biological anthropology, courses in anatomy and biological sciences; for emphasis in linguistic anthropology, courses in linguistics and in speech and hearing. Courses in philosophy and statistics are strongly recommended for all anthropology majors.
4. Requirements for the major—24–36 semester hours in second-group anthropology courses, including Anth 198 and at least one course from each of the following five categories: aspects of culture (courses numbered in the 150s and 199 and 200), linguistics

(161, 162, 168, and 169), ethnology (courses numbered in the 170s), biological anthropology (courses numbered in the 140s), and archaeology (courses numbered in the 150s). Students intending to pursue a graduate degree in anthropology should take Anth 195 and at least one course each in archaeology and in biological and linguistic anthropology. Qualified seniors may enroll in 200-level seminar courses with the permission of the instructor. Up to 6 semester hours of ethnographic or archaeological field school credit may be accepted and applied toward the major, if approved by the department, and majors are encouraged to participate in such summer programs. Opportunities are available for field and laboratory research during the academic year, both within the department and elsewhere in the Washington area. Credit for such work (not to exceed one-quarter of a student's total second-group credit hours in anthropology) may be granted through registration in Anth 195. Candidates for graduation with Special Honors must register for 6 semester hours of Anth 195, Undergraduate Research, and write a paper of special distinction arising out of a program of directed reading or research.

Bachelor of Arts with a major in classical archaeology and anthropology (departmental)—An interdepartmental major offered by the Anthropology and Art Departments. The following requirements must be fulfilled:

1. The general requirements stated under Columbian College of Arts and Sciences.
2. Required courses in other areas: 6 semester hours, or equivalent, of introductory French, German, Latin, Greek, or a Near Eastern language. A second year of language study is strongly encouraged. Since graduate study in archaeology usually involves broad preparation, especially in languages, students intending to pursue graduate study should consult with the departmental advisor as early as possible in their undergraduate programs.
3. Required courses in the major: Anth 3, 183, 184, and one course chosen from Anth 152, 158, 177, or an approved 3-hour course in field work; four courses chosen from Anth 101, 102, 103, 112, 155; two courses chosen from Clas 71, 72, 107, 113, 170; two courses chosen from Hist 107, 108, 109, 110 (students electing Hist 108 should previously have completed Hist 107 or 109).

Minor in general anthropology—21 credit hours are required, including Anth 1, 2, 3, 198, and two additional courses in anthropology, no more than two of which may be chosen in the same subdiscipline. For the purposes of this minor, the department's second-group courses may be divided into subdisciplines as follows: biological anthropology—Anth 147, 148; archaeology—Anth 182, 183, 184, 185, 186, 190, and 194; anthropological linguistics—Anth 161, 162, 168, and 169; sociocultural anthropology—all other second-group courses, with the exception of Anth 195 and 196, in which the topic is variable.

Minor in archaeology—18 credit hours are required, including Anth 3, four courses chosen from Anth 182, 183, 184, 185, 190, and 194; an approved field or research course or a fifth course chosen from the preceding list.

Minor in biological anthropology—15–18 credit hours are required, including Anth 146, 147, and 148; an approved field or research course or an approved course or course sequence in a related field (including biological sciences, geology, psychology, statistics, and certain other disciplines).

Minor in sociocultural anthropology—18 credit hours are required, including Anth 195 and 198; one course in ethnography (Anth 170–179); Anth 151 or 152; Anth 156 or 157; and one course chosen from Anth 150, 153, 155, 158, 159, or 200.

Minor in cross-cultural communication—18 credit hours are required, including Anth 3 or 4, 161, 162; Anth 150 or 159; one course in ethnography (Anth 170–179); one course chosen from Anth 153, 155, 158, 163, 165, or 168.

Master of Arts in the field of anthropology—Prerequisite: a bachelor's degree; a major in anthropology is preferred but not mandatory. The undergraduate program should include courses above the introductory level in anthropological theory, social organization, linguistics, archaeology, and biological anthropology. Students with less background in anthropology may be admitted but may be required to take one or more undergraduate courses to make up deficiencies before beginning the degree program.

1. *General degree*—Required: the general requirements stated under the General School of Arts and Sciences. The minimum requirement consists of 24 semester hours

approved graduate course work, generally followed by a thesis (equivalent to 6 semester hours). Under certain circumstances, however, the department may permit a program of study consisting of 36 semester hours of approved course work without a thesis. At least 6 semester hours drawn from the sequence Anth 201, 202, 203, 204 should be included in the course work. For students with fewer than four undergraduate semesters of one major foreign language, a reading knowledge examination in a major foreign language must be passed before beginning the third semester of graduate work. A written general Master's Comprehensive Examination must be passed before beginning the 28th semester hour of graduate work.

2. *With a concentration in museum training*—Required: the general requirements stated under the Graduate School of Arts and Sciences. The program of study is the same as that described for the general degree, above, with the following exceptions: the minimum requirement consists of 36 semester hours of approved graduate course work and must include from 12 to 15 semester hours of work in museum-related courses, 6 semester hours of which may be in an internship. Museum training students may substitute for the foreign language reading examination an appropriate course in chemistry or photography, if approved by the department. No thesis is required, but students are expected to submit to the department at least one research paper of publishable quality on a museum-related topic. Students whose primary interest is in museum techniques, rather than anthropology, are advised to apply to the master's program in museum studies (see Museum Studies). A program in museum education is also available.

3. *With a concentration in development*—Required: the general requirements stated under the Graduate School of Arts and Sciences. The program of study is the same as that described for the general degree, with the following exceptions: this is a 36-credit-hour nonthesis program, including 6–9 hours in development anthropology (Anth 220, 221, 222), 18–21 hours in other anthropology courses, and 6–9 hours in economics and economic development. In some circumstances a thesis may be allowed. The program is designed to improve the student's understanding of complex development problems, such as economic change, population, health, education, migration, and ecology, within an anthropological framework. A limited number of internships will be available at public and private development agencies in the Washington area.

4. *With a concentration in folklife*—Required: the general requirements stated under the Graduate School of Arts and Sciences. The program of study is the same as that described for the general degree, with the following exceptions: this is a 30-credit-hour thesis program consisting of 24 hours of anthropology, including 6 hours of folklore core courses (Anth/AmCv 254 and 257). In some circumstances a 36-credit-hour nonthesis program may be allowed.

Master of Science and Doctor of Philosophy in the field of geobiology—see Geobiology.

First Group

- 1 **Introduction to Biological Anthropology** (3) Brooks and Staff
Survey of human evolution, genetics and physical variation, and primatology. Frequent laboratory exercises. Laboratory fee, \$15. (Fall and spring)
- 2 **Introduction to Sociocultural Anthropology** (3) Allen, Krulfeld, Simons, Kavanagh
Survey of the world's cultures, illustrating the principles of cultural behavior. (Fall and spring)
- 3 **Introduction to Archaeology** (3) Humphrey, Brooks, Webster
Introduction to archaeological survey and excavation techniques and laboratory methods of dating and analysis. Brief history of archaeology and survey of world prehistory. Films and laboratory exercises. (Fall and spring)
- 4 **Language in Culture and Society** (3) Kuipers
Comparison and analysis of how cultures use language to communicate. The relationship of language to issues of human nature, gender, race, intelligence, artistic expression, and power. (Spring)

Second Group

- 115 **Field Program in Meso-American Archaeology and History** (3 or 6)
 Joint offering of the American Studies Program and the Department of Anthropology. Field study of archaeological and historical sites in Mexico and Central America. (Summer) Humphrey, K.
- 146 **Biological Anthropology of Modern Man** (3)
 An overview of human variation, with special emphasis on the skeleton. Includes history of physical anthropology, individual and population variations, biological recovery of human remains, paleodemography, growth, paleopathology, and forensic anthropology. Prerequisite: Anth 1. (Spring) Ubel
- 147 **Introduction to Hominid Evolution** (3)
 The fossil record of hominid evolution considered in the light of evolutionary theory. Brief review of the earlier human antecedents, with concentration on Pleistocene remains. Laboratory fee, \$15. Prerequisite: Anth 1. (Spring) Br
- 148 **Primatology** (3)
 Physical and behavioral characteristics of the various primate groups and their relationship to human physical and cultural evolution. Frequent meetings at the National Zoological Park. Prerequisite: Anth 1. (Fall) Krul
- 150 **Comparative Value Systems** (3)
 World views, conceptual systems, and value orientations of representative cultures throughout the world. Krul
- 151 **Comparative Economic Systems** (3)
 The cross-cultural analysis of economic organizations, including hunters-gatherers, herders, cultivators, and peasants; the relationship of economic ecology and to other aspects of culture; and the impact of the outside world on these economies. Humph
- 152 **Man, Culture, and Environment** (3)
 Basic principles of cultural ecology. Human interaction with the ecosystem in the past and present; emphasis on the application of anthropological principles to current environmental problems. Sim
- 153 **Psychological Anthropology** (3)
 Relevance of psychological theories to human evolution and the cross-cultural study of personality. Cultural determinants of personality formation and mental health. Prerequisite: Anth 2 or permission of instructor. (Spring) Rasnake
- 154 **The Anthropology of Law** (3)
 Cross-cultural examination of law and judicial systems. Comparison of processes of adjudication and mediation, including the logic of legal argument, court procedures, and dispute resolution. Prerequisite: Anth 2 or permission of instructor. (Spring) Simons
- 155 **Religion, Myth, and Magic** (3)
 Theories of religion developed by anthropologists; survey of world religions with emphasis on preliterate societies; religious processes and change. Simons, J.
- 156 **Political Anthropology** (3)
 Comparative analysis of political systems, including bands, tribes, chiefdoms, and states. Political processes, such as factionalism, styles of leadership, power, ritual, and the wider institutional milieu. Prerequisite: Anth 2 or permission of instructor. (Fall, odd years) Kavanagh and
- 157 **Comparative Kinship and Social Structure** (3)
 Comparative analysis of social patterns and roles in kinship, economic, and political organization. Emphasis on preliterate societies, with some attention to complex systems. Prerequisite: Anth 2 or permission of instructor. Simons, Allen
- 158 **Art and Culture** (3)
 The art of tribal society, including the role of art in culture, influences upon the artist, and beliefs and practices associated with art production. Krulfeld, Humphrey

- 159 **Symbol, Cognition, and Society** (3) Allen
The study of culture through the analysis of symbolic systems including myth, cosmology, folklore, art, ritual, political symbolism, and the symbolic study of kinship. Prerequisite: Anth 2 or permission of instructor. (Fall, odd years)
- 161 **Language, Culture, and Experience** (3) Kuipers
Varieties of linguistic structure; the interrelationship of language cognition and verbal behavior; the origin and evolution of human language; verbal organization of perception and emotion. Prerequisite: Anth 4 or permission of instructor. (Fall)
- 162 **Discourse, Power, and Performance** (3) Kuipers
Linguistic variation and change in discourse practices; social and political correlates of linguistic interaction; verbal art. Prerequisite: Anth 4 or permission of instructor. (Spring)
- 163 **Anthropology of Visual Communication** (3) Staff
Still and motion-picture photography as an integral aspect of anthropological research. A study of recent and historic ethnographic films and an introduction to the forms and methods of making visual ethnographic records. Prerequisite: Anth 2 or permission of instructor. Material fee, \$15.
- 165 **Introduction to Folklore** (3) Vlach
Same as AmCv 165.
- 168 **Methods of Linguistic Analysis** (3) Kuipers
Phonetics, grammatical analysis, principles of lexicography, techniques of linguistic reconstruction, and other tools of anthropological linguistic research. (Fall)
- 169 **Intensive Study of a Language** (3) Kuipers
Analytic study of a selected language, ordinarily one not frequently studied in a university context (such as an American Indian language), as an illustration of the methods of anthropological linguistics. Prerequisite: Anth 168. (Spring or summer)
- 170 **Cultures of the Caribbean** (3) Staff
Culture history and ways of life among the area's various cultural groups up to the ethnographic present. Prerequisite: Anth 2 or permission of instructor. (Summer)
- 171 **Native Peoples of North America** (3) Simons, Humphrey
Comparative study of Indian groups representative of each of the continent's culture areas. Prerequisite: Anth 2 or permission of instructor. (Fall)
- 172 **Cultures of South America** (3) Allen, Rasnaek
Comparative study of native American, Iberian, and African cultures of South America and their interactions. Emphasis on world view, interethnic relations, and culture change. Prerequisite: Anth 2 or permission of instructor. (Fall)
- 173 **Cultures of the Pacific** (3) Staff
Culture history and ways of life among native peoples of Melanesia, Micronesia, and Polynesia. Prerequisite: Anth 2 or permission of instructor. (Fall, odd years)
- 175 **Topics in Ethnography** (3) Humphrey, Krulfeld, Kuipers
Intensive study of the ways of life of selected Asian or Circumpolar people. Specific area to be announced in the *Schedule of Classes*. May be repeated for credit. Prerequisite: Anth 2 or permission of instructor.
- 177 **Cultures of the Near East** (3) Maloof
Geographic environment, language, religion, and social structure of settled and nomadic peoples of the Near East: emphasis on the Arab world. Prerequisite: Anth 2 or permission of instructor. (Spring)
- 178 **Cultures of Africa** (3) Staff
Comparative examination of the history, cultural development, and contemporary problems of sub-Saharan African cultures. Prerequisite: Anth 2 or permission of instructor.

- 182 **New World Archaeology** (3)
History of American archaeology; survey of North American culture history from human entry into the Americas during the Pleistocene period until the time of the first European contacts. Prerequisite: Anth 3 or permission of instructor. (Spring)
- 183-84 **Old World Prehistory** (3-3)
Survey of human prehistory in Europe, Africa, and Asia from the earliest hominid cultures to the beginnings of advanced civilizations. Anth 183: Paleolithic and Mesolithic cultures. Anth 184: Neolithic and Bronze Age cultures. Prerequisite: Anth 3. (Academic year)
- 185 **Archaeology of Meso-America** (3)
Culture history of pre-Columbian Mexico and Central America from the Paleo-Indian period through the Spanish Conquest. Prerequisite: Anth 3 or permission of instructor. Humphrey, Chant
- 186 **Archaeology of South America** (3)
Culture history of pre-Columbian South America, with a focus on the Andes and the Paleo-Indian period through the Spanish Conquest. Prerequisite: Anth 3 or permission of instructor. Allen, Mc
- 190 **Ethnohistory** (3)
Reconstruction of the history of a selected preliterate society through the analysis of historical documents, oral traditions, archaeological remains, and other direct sources. Specific topic to be announced in the *Schedule of Classes*. Same as Hist 190. Allen, Humph
- 191 **Anthropology, Drama, and the Human Experience** (3)
A comparative approach to the meaning of humanity in different cultural traditions. Examination of the role of drama in daily life in its secular and ritual contexts in which it is developed for conscious goals. Through improvisation workshops, students explore how the techniques of anthropology and drama lead to a better understanding of the significance of specific actions and events and of human experience. Same as TrDa 140. Garner, A
- 192 **Development Anthropology** (3)
The impact of the world economy on nonindustrial societies. Analysis of the role of anthropology in international development programs aimed at alleviating problems in the Third World. Prerequisite: Anth 2 or permission of the instructor. Rasnake and
- 193 **Field and Laboratory Research in Archaeology** (3)
Joint offering of the American Studies Program and the Anthropology Department. Field and/or laboratory techniques and interpretation. Topics may include excavation methods, recording photography, preservation, stratigraphy and environmental reconstruction, typology, use-wear analysis, and spatial analysis. Specific research area and topics announced in the *Schedule of Classes*. Co
- 194 **Introduction to Historical Archaeology** (3)
Joint offering of the American Studies Program and the Anthropology Department. Survey of the basic data and methods of research in the material culture of recent history. (Spring)
- 195 **Undergraduate Research** (arr.)
Individual research problems to be arranged with a member of the faculty. May be repeated for credit. Prerequisite: Appropriate introductory course or permission of instructor.
- 196 **Special Topics in Anthropology** (3)
Courses offered by visiting faculty; experimental offerings. Topic to be announced in the *Schedule of Classes*. May be repeated for credit. Prerequisite: Anth 2 or permission of instructor.
- 197 **Oral History and Interview Techniques** (3)
Same as AmCv/Hist 197.
- 198 **Foundations of Anthropology** (3)
The development of anthropological thought as seen in historical context. Presentation of selected basic concepts and theories of contemporary anthropology to be taken in the junior or senior year. Prerequisite: Anth 2 and 3. Allen, K

- 199 **Techniques of Field Research** (3) Staff
Training in the development of skills necessary for different field situations, urban and rural, at home and abroad, in developing techniques of observation, participation, and documentation, as well as skills in handling practical field situations and problems. Intended primarily for those intending to do field research in the United States or abroad but useful to anyone likely to be living or working in a foreign culture. Prerequisite: Anth 2 or permission of instructor.
- 200 **Methods in Sociocultural Anthropology** (3) Krulfeld
Approaches to library and field research. Conceptual bases and biases in the delineation of problems and in the selection, analysis, and organization of data. Students will design and carry out their own field projects in the Washington area. Prerequisite: Anth 2 or permission of instructor. (Spring)

Third Group

- 201 **Proseminar: Biological Anthropology** (3) Brooks
Theories, methods, and current issues in the various subdisciplines of biological anthropology. (Spring)
- 202 **Proseminar: Sociocultural Anthropology** (3) Krulfeld, Allen
Major topics in contemporary social and cultural anthropology, stressing current journal and monograph materials. (Spring)
- 203 **Proseminar: Anthropological Linguistics** (3) Kuipers
Contemporary anthropological studies of language in biological, social, and historical perspectives. (Fall)
- 204 **Proseminar: Method and Theory in Archaeology** (3) Humphrey, Brooks, Benco
Survey of the most recent archaeological techniques and theoretical approaches to reconstructing and interpreting the cultures of the past. (Fall)
- 211 **Seminar: Problems in Conservation** (3) Rose
Joint offering of the Anthropology and Art Departments. Individual conservation projects to determine composition, construction, decomposition of materials, and possible stabilization techniques. Conservation laboratory experience. Prerequisite or concurrent registration: Art or Anth 212. (Fall)
- 212 **Advanced Conservation Techniques** (3) Rose
Joint offering of the Anthropology and Art Departments. Physical structure, molecular biology, and chemistry of ethnographic materials. Chemistry and physics underlying techniques used to conserve these materials. Prerequisite: Art or Anth 293, Chem 50, and permission of instructor. (Fall)
- 220 **The Anthropology of Development** (3) Krulfeld, Rasnake
The role of anthropology in development; emphasis on theoretical perspectives that distinguish the unique contribution of anthropology to understanding processes of change in Third World societies. Issues include land reform, ecological impact, agricultural and pastoral systems, women's roles, migration, political institutions, and proletarianization. The role of anthropology in planning, feasibility studies, and implementation of development projects and policy. (Fall)
- 221 **Key Variables in the Development Process** (3) Rasnake, Krulfeld
Major factors required for anthropologists' development work in the areas of population, education, agriculture, irrigation, forestry, nutrition, health care, migration and resettlement, marketing, and communications. Isolation and study of the major variables and processes in each area to aid in successful planning, feasibility study, implementation and evaluation. (Spring)
- 222 **Issues in Development** (3) Krulfeld, Rasnake
Topic to be announced in the Schedule of Classes.
- 223 **New Research Methods and Techniques in Development Anthropology** (3) Rasnake
(Formerly Internship in Development Anthropology)
Research methodologies in international development anthropology. Anthropologists' roles in multidisciplinary teams and their participation in research-

- related activities, such as feasibility studies, social soundness analysis, evaluations. Innovative research techniques, such as interactive data gathering, team survey methods, and rapid rural appraisal. Admission by permission of instructor. (Spring)
- 224 **Internship in Development Anthropology** (3)
(Formerly Anth 223)
Supervised participation in a selected development agency. Opportunity to observe agency procedures and gain practical experience of agency activities. Admission by permission of instructor or department chair. May be repeated for credit. (Fall and spring)
- 247 **Palaeoanthropology** (3)
Survey of current research in hominid and hominoid evolution, focusing on the integrated nature of the field. Contributions from the geological and biological sciences will be stressed, together with innovative geochemical techniques for establishing chronological sequences. Prerequisite: Anth 147 or BiSc 190 or equivalent. (Spring, even years)
- 254 **Folklore Theory** (3)
Same as AmCv 254.
- 255 **Anthropology, Education, and the Museum** (3)
The role of anthropology in education and museums. Emphasis on current anthropological research and on innovative museum and classroom techniques and materials. Seminars and teaching demonstrations at museums and laboratories.
- 257 **Seminar: American Folklife** (3)
Same as AmCv 257.
- 258 **Seminar: Anthropology of Art, Aesthetics, and Symbolism** (3)
Anthropological approaches to aesthetic problems and theories of symbolism in the context of ethnographic materials. Allen, K.
- 259 **Topics in American Folklife** (3)
A seminar devoted to a variety of subjects related to folklore and folklife, such as public-sector folklife policy, folk music, oral literature, or ethnic folklife in culture. The specific topic will be determined by the interests of available faculty and the curriculum needs of the folklife program. Same as AmCv 259.
- 260 **Special Topics in Contemporary Anthropology** (3)
Exploration of a timely theoretical issue, enabling students to keep abreast of significant developments in the field. Specific topic to be announced in the *Schedule of Classes*. May be repeated for credit.
- 262 **Seminar: Applied Anthropology** (3)
Use of anthropological methods and techniques in such specific fields as government, community development, land reform, law, and medicine. (Fall)
- 263 **Seminar: Culture Contact and Change** (3)
Change in Western and non-Western cultures; emphasis on general processes of change and interaction between simpler and more complex societies.
- 264 **Seminar: Anthropological Museum Techniques** (3)
Principles of anthropological collection, classification, preservation, identification, interpretation, and exhibition of specimens; research and instructional techniques of the museum. Field trips to area museums. (Fall) Humphrey, P.
- 266 **Seminar: Technology** (3)
Cross-cultural examination of the form, function, meaning, and use of material culture and the behavior patterns involved in its production. (Spring)
- 267 **Seminar: Economic Anthropology** (3)
Comparative study of systems of production, distribution, consumption, and the political economy and economic change in both preliterate and complex societies. (Fall)
- 268 **Seminar: Peasant Society** (3)
Cross-cultural analysis of peasant societies, including their manner of functioning within larger social, economic, and cultural contexts. (Fall)

- 269 **Seminar: Key Issues in Social Organization** (3) Simons
Current issues in the analysis and interpretation of kinship and political and legal phenomena, with particular emphasis on problems of social and ideological change in developing countries and their effect on sex roles, the family, and social networks. (Spring)
- 272 **Seminar: Topics in Latin American Anthropology** (3) Allen
Specific topics, to be announced, will be selected from the following: mythology and ritual, artistic traditions, ethnic groups, Andean or Tropical Forest social organization, peasant movements and land reform, native cultures during the Colonial period, archaeological problems.
- 273 **Seminar: Urban Anthropology** (3) Hertz
A review of the literature on urban kin groups, occupational/class and ethnic communities, migrant adaptations; the nature of urbanism; urban poverty; urban field methods. (Spring)
- 274 **Seminar: Topics in American Culture** (3) Hertz
Review of anthropological literature on American world view, mainstream and alternate forms of kinship, selected ethnic groups, and the effects of sex, age, class, occupation, and politics on American life. (Fall)
- 282 **Seminar: Advanced Archaeology—New World Prehistory** (3) Humphrey
Current archaeological problems relating to the origin and development of aboriginal cultures. Specific topic to be announced in the *Schedule of Classes*. May be repeated for credit.
- 283 **Seminar: Topics in Old World Anthropology—Physical Anthropology and Archaeology** (3) Brooks
Current problems in relation to materials from the old world. Specific area to be announced in the *Schedule of Classes*. (Spring)
- 287 **Seminar: Problems in Latin American Civilization** (3) Staff
Same as IAff 287.
- 290 **Advanced Museum Research** (3) Staff
Supervised individual research and/or field work at the Smithsonian Institution or other area museums, arranged in consultation with the museum and the Anthropology Department. Admission by permission of the department chairman. May be repeated for credit. (Fall and spring)
- 291 **Anthropology in the Museum** (3) Humphrey, Evans
Anthropological materials (in the broadest sense), exhibits, and museums. Topics include museum anthropology, collections, research, interpretation, and education, with a focus on the practical problems of developing an anthropological exhibit hall. (Spring)
- 292 **Introduction to Conservation** (3) Rose
Joint offering of the Anthropology and Art Departments. Method and theory of conservation: including fine arts, ethnographic archaeological, and monuments conservation; handling, restoration, preservation, storage, and display of museum specimens; basic materials of museum objects and the ways they react to their environment. The summer course deals with conservation of archaeological materials. (Fall, spring, and summer)
- 293 **Preventive Conservation Techniques** (3) Rose
Joint offering of the Anthropology and Art Departments. Practical aspects of preventive conservation, such as monitoring environmental conditions with measuring and recording devices; examining objects and documenting their conditions (including photography); and identifying sources of deterioration for various materials. Students will conduct tests, evaluate exhibition and storage areas, and participate in improving and correcting museum conditions. Prerequisite: Anth/Art 292. (Spring)
- 294 **Field and Laboratory Research in Archaeology** (3) Cressey, Brooks
Joint offering of the Anthropology Department and the American Studies Program. Field and/or laboratory techniques and interpretation. Topics may include excavation methods, recording, photography, preservation, stratigraphy and environmental reconstruction, typology, use-wear analysis, and spatial analysis.

Specific research area and topics announced in the *Schedule of Classes*.
repeated for credit. Same fieldwork as Anth 193 but with additional reading
research required. (Summer)

295 **Research** (arr.)

May be repeated for credit. (Fall and spring)

298 **Dumbarton Oaks Courses** (arr.)

Courses offered each year by scholars in residence at Dumbarton Oaks are open to
qualified graduate and undergraduate students with permission of department
chairman. Topics will be announced. May be repeated for credit provided
topic differs.

299–300 **Thesis Research** (3–3)

(Fall and spring)

ART

Professors D.H. Teller, L.F. Robinson (Chair), J.F. Wright, Jr., A.H. Smith, J.L. Labadie,
Ozdogan, M.P. Lader

Professorial Lecturers Grace Evans, L. Miller

Associate Professors H.I. Gates, D.M. Hitchcock, J.C. Anderson, B. von Barghahn

Molina, W.T. Woodward, C.C. Costigan, J.L. Stephanic

Adjunct Associate Professors Grose Evans, C.R. Rose

Associate Professorial Lecturers D. Von Endt, D.C. Lynn, D. Srinivasan, J.G. Kautz

A.B. Barnhart, B.G. Carson

Assistant Professors F. Griffith, K.J. Hartswick, D. Bjelajac

Assistant Professorial Lecturers E.P. Lawson, C. Smigrod, C.R. Smith, M.J. Francis

Harrop, B.R. Stevens, R. Rodriguez, J. Paradiso, M. Dennis, W.W. Scott, J.R. Spivey

M. Hasbun

Curator, Dimock Gallery L.D. Miller

Bachelor of Arts with a major in art history (departmental)—The following requirements must be fulfilled:

1. The general requirements stated under Columbian College of Arts and Sciences
2. Prerequisite courses—Art 31–32 and 71 or 72.
3. Required courses in related areas—Art 137; Fren 1–2–3, or Ger 1–2, 3–4.
4. Required courses in the major—Art 101 and 102, 104 or 105, 106 or 107, 108, 110, 113 or 114, 117 or 118, 129; 9 additional semester hours in second-group art history courses.

5. A maximum of 9 semester hours in fine arts, including Art 137, is permitted.

Bachelor of Arts with a major in fine arts (departmental)—The following requirements must be fulfilled:

1. The general requirements stated under Columbian College of Arts and Sciences
2. A total of 51 hours of art courses is required of fine arts majors except for students with a concentration in photography and visual communication, for whom 54 hours are required.
3. Required basic fine arts courses: Art 21–22 and 41–42.
4. Required courses in art history: Art 31–32; 6 additional semester hours in second-group art history courses.
5. Required fine arts courses in the major:
 - a. 12 hours, exclusive of primary area of concentration, in four of the following areas—ceramics, advanced drawing, advanced design, printmaking, painting, photography, sculpture, and visual communication.
 - b. 15 hours to be taken in the primary area of concentration (except for photography and visual communication).
 - c. 18 hours for students concentrating in photography: Art 23, 24, 181, 182, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000.
 - d. 18 hours for students concentrating in visual communication: Art 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000.

four courses chosen in consultation with the advisor.

6. Nine additional hours of electives may be taken in the Art Department, except for students concentrating in photography, who take only 6 hours of electives in the Art Department.

7. Transfer students must take at least 12 semester hours of second-group fine arts courses and 9 semester hours in their area of specialization at this University.

Bachelor of Arts with a combined major in art history and fine arts—The following requirements must be fulfilled in consultation with the departmental advisor:

1. The general requirements stated under Columbian College of Arts and Sciences.
2. A total of 30 hours in art history and 30 hours in fine arts.
 - a. Art history: Art 31–32, 71 or 72, and one course in each of the following areas—ancient, medieval, Renaissance, seventeenth and eighteenth centuries, nineteenth and twentieth centuries; 6 hours of art history electives.
 - b. Fine arts: Art 21–22, 41–42. The remaining 18 hours may be in one area of concentration or a combination of areas.

Special Honors—For graduation with Special Honors, students must have attained a quality-point index of at least 3.5 in the major and 3.0 overall. No later than the beginning of the senior year, students should consult their advisor regarding eligibility and selection of an area of study and a director of the research or creative arts project.

Bachelor of Arts/Master of Arts in the field of art therapy—A five-year program leading to the B.A. in the field of fine arts or psychology and the M.A. in the field of art therapy. See Art Therapy.

Bachelor of Arts with a major in classical archaeology and anthropology (departmental)—An interdepartmental major offered by the Art and Anthropology Departments. The following requirements must be fulfilled:

1. The general requirements stated under Columbian College of Arts and Sciences.
2. Required courses in other areas: 6 semester hours, or equivalent, of introductory French, German, Latin, Greek, or a Near Eastern language. A second year of language study is strongly encouraged. Since graduate study in archaeology usually involves broader preparation, especially in languages, students intending to pursue graduate study should consult with the departmental advisor as early as possible.
3. Required courses in the major: Anth 3, 183–84, and one course chosen from Anth 101, 102, 103, 112, 155; two courses chosen from Clas 71, 72, 107, 113, 170; two courses chosen from Hist 107, 108, 109, 110 (students electing Hist 108 should previously have completed Hist 107 or 109).

Bachelor of Arts with a major in classical archaeology and classics (departmental)—An interdepartmental major offered by the Art and Classics Departments. The following requirements must be fulfilled:

1. The general requirements stated under Columbian College of Arts and Sciences.
2. Prerequisite courses—Clas 1–2, 3, 4; or Clas 11–12, 13–14.
3. Required courses in the major—Art 101, 102, 112, 155; three courses selected from Hist 107, 108, 109, 110, 209; 6 semester hours in second-group courses in Greek or Latin (a reading knowledge of French and German is recommended).

Minor in Art History—Required: 18 semester hours of courses in art history. Declaration of the minor must be made after completion of no more than 9 hours in art history. Specific areas of concentration (ancient/medieval, Renaissance/Mannerism, Baroque/eighteenth century, nineteenth century/modern, primitive/pre-Columbian, Hispanic) are determined upon consultation with the undergraduate advisor for Art History.

Minor in Fine Arts—Required: 18 semester hours of general course work in fine arts or in an area of concentration selected from design, drawing, ceramics, photography, painting, printmaking, sculpture, or visual communication. Students in the general program should consult the undergraduate fine arts advisor. Those selecting a specific area should consult with an advisor in the area of concentration.

Combined Minor in Art History and Fine Arts—Required: 9–12 hours of course work in art history and 9–12 hours in fine arts, for a total of 21 hours. Declaration of a combined minor must be made after completion of no more than 6 hours in art history and 6 hours in fine arts. A program of study is developed in consultation with the undergraduate advisor in art history and fine arts.

Master of Arts in the field of art history—Prerequisite: a Bachelor of Arts degree with a major in art history from this University, or an equivalent degree. Applicants from other institutions must present scores on the Graduate Record Examination to the Office of the Graduate School of Arts and Sciences.

1. *With a concentration in classical art and archaeology, medieval art, Renaissance art, Baroque art, eighteenth- and nineteenth-century art, contemporary art, or American art*—Required: the general requirements stated under the Graduate School of Arts and Sciences; 36 semester hours of course work including 6 hours of thesis research. As many as possible of the 30 semester hours of course work should be in third-group courses; not more than 6 hours may be taken in museum-related courses. Students are required to take a seminar in each of the following areas: classical, medieval, Renaissance, Baroque, modern, and American. Students must maintain a quality-point index of at least 3.0. A reading knowledge examination in German or French must be passed before completion of the first 9 semester hours of course work. A written and oral general Master's Comprehensive Examination must be passed before students can enroll for the 6 semester hours of thesis research. The written thesis must be submitted to and approved by the faculty.

2. *With a concentration in museum training*—Required: the general requirements stated under the Graduate School of Arts and Sciences; 36 semester hours of course work including 12 hours of internship credit (Art 201–2 and 271–72). As many as possible of the 36 hours of course work should be in third-group courses. Students are required to take a seminar in each of the following areas: classical, medieval, Renaissance, Baroque, modern, and American. Six hours of electives in art history or in museum-related courses should be selected in consultation with the graduate advisor. Students must maintain a quality-point index of at least 3.0. A reading knowledge examination in German or French must be passed before completion of the first 9 semester hours of course work. Students are required to pass the general written Master's Comprehensive Examination in art history and may also be required to pass a written comprehensive examination in museology as part of the requirements for the internship.

Acceptance into this program as a degree candidate is provisional, pending satisfactory completion of 12 semester hours of graduate art history courses and the approval of the Graduate Programs Committee (Department of Art).

The Art Department has established a program of study in affiliation with a number of museums and galleries including the Corcoran Gallery of Art, the Hirshhorn Museum and Sculpture Garden, the Museum of African Art, the National Museum of American Art, the Phillips Collection, the Renwick Gallery, and the Textile Museum.

Programs specific to museum studies and museum education are also available.

3. *With a concentration in museum administration*—For details consult the chair of the department.

Master of Fine Arts in the field of ceramics, design, printmaking, painting, photography, sculpture, or visual communication—Prerequisite: a Bachelor of Fine Arts or a Bachelor of Arts degree with a major in fine arts in the field of ceramics, design, drawing, photography, printmaking, sculpture, or visual communication. A 3.0 undergraduate point average (on a 4.0 scale) and departmental approval of the applicant's portfolio are required. This should consist of slide examples of work in the area of application as well as slides of representative works in other areas. Students planning to do graduate work in printmaking or painting must have completed 12 semester hours of drawing at the undergraduate level before admittance to the master's program.

Required: the general requirements stated under the Graduate School of Arts and Sciences. A minimum of 45 semester hours of course work in fine arts is required. The number of required hours is determined in consultation with an advisor. As many as possible of the course work should be in third-group courses, only 18 hours of which may be in one area; 6–9 hours are to be selected from related areas in consultation with the advisor.

advisor. A creative thesis consisting of the execution of original works of art in ceramics, design, drawing, painting, photography, printmaking, sculpture, or visual communication will be completed under the supervision of a thesis advisor. In addition, the thesis must include a written statement and analysis of artistic purpose, subject to the approval of the thesis advisor and a second faculty reader. A representative portion of the work illustrating the creative thesis may be retained by the University at the discretion of the thesis director in agreement with the second reader.

Doctor of Philosophy in the field of art history—Required: the general requirements stated under the Graduate School of Arts and Sciences, and a Master of Arts degree in art history. Candidates must also pass written examinations in French and German and General Examinations in one major area of specialization and two other areas of specialization. Language examinations should be completed within the first academic year of course work. Programs are planned in consultation with a departmental committee.

Research fields: Nineteenth- and twentieth-century European art and American art.
Supporting fields: Classical art and archaeology, early Christian and Byzantine art, Northern Renaissance art, and Baroque art.

ART HISTORY

First Group

- 1 **Principles of Art** (3) von Barghahn
 An introduction to various art media, basic elements of art and thematic interpretations, European and non-Western traditions. (Fall and spring)
- 31-32 **Survey of Western Art** (3-3) Robinson and Staff
 A foundation for further study in the history of art. Art 31: prehistoric to Gothic art. Art 32: proto-Renaissance to modern art. (Art 31 and 32—fall and spring)
- 71-72 **Introduction to the Arts in America** (3-3) Bjelajac
 Art 71: Colonial beginnings to the Republican Age. Art 72: 19th century to the present. (Art 71 and 72—fall and spring)

Second Group

- 101 **Greek Art and Archaeology** (3) Hartswick
 A survey of Greek sculpture, painting, and architecture, from the Dark Ages (ca. 1000 B.C.) through Alexander the Great (ca. 300 B.C.). Emphasis is on the stylistic development of Greek art and the interrelationships among sculptural technique and style, major changes in vase painting, and the refinements of architectural elements. (Fall)
- 102 **Roman Art and Archaeology** (3) Hartswick
 A survey of Roman sculpture, painting, and architecture, from 300 B.C. (the Etruscans) to the end of the Constantinian Period (ca. 300 A.D.). The major artistic achievements of the Romans—portraiture, historical narratives—and the stylistic changes from the idealized and illusionistic to the realistic and abstract. (Spring)
- 103 **The Ancient Artist and His Workshop** (3) Hartswick
 A study of the ancient craftsman's techniques, workshop organization, and position in society. Exploration of sculpture, architecture, painting, pottery, mosaics, gems, glass, and metalwork.
- 104 **Renaissance Art in Italy I** (3) Grace Evans
 Early developments from the 13th to the 15th century. (Fall)
- 105 **Renaissance Art in Italy II** (3) Grace Evans
 High Renaissance and Mannerism. (Spring)
- 106 **Renaissance Art in the North I** (3) Hitchcock
 Northern painting from van Eyck through Bosch. (Fall)
- 107 **Renaissance Art in the North II** (3) Hitchcock
 Northern painting and graphics from Durer through Brueghel. (Spring)

- 108 **18th-Century Art in Europe** (3)
Painting, sculpture, and architecture in France, Great Britain, and Italy. Emphasis on Watteau, Chardin, David, Hogarth, Gainsborough, Reynolds, Canaletto, and Tiepolo. (Spring) Hitchcock
- 109 **19th-Century Art in Europe I** (3)
Examination of Neoclassicism and Romanticism in the context of Western European historical and cultural developments. Emphasis on France, England, and Germany and the representative styles of David, Ingres, Delacroix, Turner, Constable, and Friedrich. (Fall) Robinson
- 110 **19th-Century Art in Europe II** (3)
Examination of the revolution in style of Realism, Impressionism, and Post-Impressionism in the context of Western European political, social, and cultural developments. Emphasis on representative styles of Courbet, Manet, Monet, Cezanne, Van Gogh, and Gauguin. (Spring) Robinson
- 111 **Classical Archaeology** (3)
Archaeological monuments of classical civilizations, with intensive study of one or more areas selected from architecture, sculpture, painting, or minor arts. Hartswick
- 112 **Egypt and the Near East** (3)
The great artistic tradition of the Nile Valley and the contemporary civilizations (ca. 3000 B.C. to after 1000 B.C.) between the rivers Tigris and Euphrates (present-day Iraq) are explored. Emphasis on the Pyramid Age, the temples at Karnak and Luxor, the tombs of the Valley of the Kings, and the artistic traditions of the Sumerians, Akkadians, Babylonians, Assyrians, and Persians. (Fall) Hartswick
- 113 **Baroque Art in Italy** (3)
(Spring) Grose Evans
- 114 **Baroque Art in the North** (3)
Concentration on France, Flanders, and Holland, with emphasis on Poussin, Rubens, Van Dyck, and Rembrandt. (Fall) Hitchcock
- 115 **Christian Iconography** (3)
Origins and development of Christian symbols and themes from early Christianity to the Council of Trent. Grace Evans
- 116 **Islamic Art** (3)
Staff
- 117 **Medieval Art I** (3)
Early Christian and Byzantine. (Fall) Anderson
- 118 **Medieval Art II** (3)
Romanesque and Gothic. (Spring) Anderson
- 119 **Islamic Religion and Art** (3)
Same as Rel 163. Nasir
- 120 **East Asian Art** (3)
May be repeated for credit when content differs. Srinivasan
- 121 **Spanish Art I** (3)
Discussion of areas selected from the art of ancient Iberia through the seventeenth century. Specific topic to be announced in the *Schedule of Classes*. May be repeated for credit provided the content differs. von Barghahn
- 122 **Spanish Art II** (3)
Discussion of areas selected from the eighteenth through twentieth centuries. Specific topic to be announced in the *Schedule of Classes*. May be repeated for credit provided the content differs. von Barghahn
- 129 **20th-Century Art in Europe** (3)
Survey of 20th-century European painting, sculpture, and architecture, from their origins in the late 19th century through Surrealism. Emphasis on major modernist movements and artists, including Matisse, Picasso, Kandinsky, and Mondrian. (Fall) Lader
- 130 **20th-Century American Art** (3)
Survey of 20th-century American painting and sculpture, focusing upon the avant-garde. Emphasis on artists of the Stieglitz circle and later modernist movements such as Abstract Expressionism, Pop, Op, Minimal, and Conceptual art. (Spring) Lader

- 140 Gothic Architecture (3) Staff
- 145 Folk Arts in America (3) Bjelajac
Ceramics, woodcarving, ironwork, decorative painting, weaving, and other crafts. Same as AmCv 145.
- 147 Primitive Art I: Ancient Civilizations of Mexico and Latin America (3) von Barghahn
Survey of Pre-Columbian art and architecture from prehistoric period to the Spanish conquest, including Yucatan and Central American regions.
- 148-49 19th-Century American Painting and Sculpture (3-3) Bjelajac
Fall: 1800-1860; spring: 1860-1900. (Academic year)
- 150 Landmarks in American Art (3) Bjelajac
- 155 Aegean Civilizations (3) Hartwick
An introduction to the excavational and multidisciplinary aspects of classical archaeology. Minoan and Mycenaean civilizations (1700-1200 B.C.). Interrelationships between Greek and Persian cultures of the sixth and fifth centuries B.C. (Spring)
- 156 Early Medieval Sculpture (3) Grace Evans
- 161 Studies in Renaissance Art (3) Grace Evans
- 162 Principles of Museum Work (3) Lawson
Introduction to the history and development of museums; problems of museum administration, connoisseurship, cataloguing, installation, conservation, and educational service.
- 165 Primitive Art II: African, Oceanic, North American Indian (3) von Barghahn
Survey of architecture, sculpture, and painting from ancient kingdoms to early 20th-century culture. Emphasis on imagery and iconography.
- 167 The Dynastic Courts of Europe (3) von Barghahn
Politics and royal patronage, 1400-1800. Areas may include France, Italy, Spain, Portugal, Austria, Germany, or Russia. Specific area announced in *Schedule of Classes*. May be repeated for credit if specific area is different.
- 169 History of Decorative Arts: European Heritage (3) Carson
Survey of changing styles of European furniture, textiles, ceramics, and glass, in the context of general trends in art history and changing patterns in economic, technological, social, and cultural history. From antiquity to the modern age. (Fall)
- 170 History of Decorative Arts: American Heritage (3) Carson
Examination of the decorative arts in America from the 17th century to the modern period. Exploration of changing visual characteristics in relation to the changing American experience. (Spring)
- 173 History of the Cinema (3) Staff
Same as Comm 173. Laboratory fee, \$25.
- 176 American Architecture (3) Longstreth
Same as AmCv/U&RP 175.
- 187 Individualism, Reason, and Tradition in Early Modern Europe (3) Kennedy
Same as Engl/Fren/Ger/Hist/Rel 183.
- 191 American Architecture (3) Longstreth
Same as AmCv/U&RP 176.
- 192 The American Cinema (3) Staff
Same as AmCv 192.
- 197 History of Photography (3) Lader
- *198 Studies in Art History (3) Staff

* Specific area announced in the *Schedule of Classes*. May be repeated for credit if the specific area covered is different.

Third Group

- 201-2 **Museum Projects (3-3)**
Open only to candidates for the degree of Master of Arts in the field of art history with a concentration in museum training.
- 203 **Primitive Art (3)**
(Spring) von Barghahn
- 207 **Modern Architecture (3)**
Europe and America. Lader
- 211 **Seminar: Problems in Conservation (3)**
Joint offering of the Art and Anthropology Departments. Individual conservation projects to determine composition, construction, decomposition of materials, and possible stabilization techniques. Conservation laboratory experience. Prerequisite or concurrent registration: Art or Anth 212. (Fall) Rose
- 212 **Advanced Conservation Techniques (3)**
Joint offering of the Art and Anthropology Departments. Physical structure, molecular biology, and chemistry of ethnographic materials. Chemistry and physics underlying the techniques used to conserve these materials. Prerequisite: Art or Anth 293, Chem 50, and permission of the instructor. (Fall) Von Endt
- 216 **Medieval Painting (3)**
Painting and the decorative arts. Grace Evans
- 217-18 **Problems in Museum Work (3-3)**
Art 217 is prerequisite to Art 218. Ullberg
- *220 **Seminar: Baroque Art of the 17th Century (3)**
A reading knowledge of Italian is desirable for the Italian area and German for the northern area. (Spring) Hitchcock
- *221 **Seminar: Renaissance Art (3)**
A reading knowledge of French, German, or Italian is desirable, depending on the specific area. (Fall and spring) Staff
- *243 **Seminar: American Art (3)**
(Fall and spring) Bjelajac
- *244 **Seminar: 19th-Century European Art (3)**
Reading knowledge of French desirable. Robinson
- *245 **Seminar: 20th-Century European Art (3)**
Lader
- *246 **Seminar: Classical Art (3)**
Hartswick
- *247 **Proseminar: Medieval Art and Archaeology (3)**
Andersen
- 248 **Independent Research in Art History (3)**
(Fall and spring)
- *261 **Seminar: Problems in Art History (3)**
Staff
- 271-72 **Museum Techniques (3-3)**
Open only to candidates for the degree of Master of Arts in the fields of museum training and museum studies. Practical work to be determined by Museum Training Committees at the institutions involved. (Academic year) Staff
- 284 **Seminar: Studies in American Art and History (3)**
Joint offering of the Art Department and the American Studies Program in affiliation with the National Portrait Gallery of the Smithsonian Institution. Exploration of selected problems and themes in American cultural history involving the use of artistic materials in different media; emphasis on methodology and analytic techniques. (Spring) Staff
- 289-90 **Thesis Research (3-3)**
(Fall and spring)
- 292 **Introduction to Conservation (3)**
Interdepartmental course offered by the Art and Anthropology Departments. Method and theory of conservation, including fine arts, ethnographic, archaeological, and monuments conservation; handling, restoration, preservation, stor-

* Specific area announced in the *Schedule of Classes*. May be repeated for credit if the specific area covered is different.

age, and display of museum specimens; basic materials of ethnographic objects and the ways they react to their environment. The fall section is open to conservation students and to those who plan to register for Art 293 in the spring. (Fall and spring)

293 **Preventive Conservation Techniques** (3)

Rose

Interdepartmental course offered by the Art and Anthropology Departments. Practical aspects of preventive conservation, such as monitoring environmental conditions with measuring and recording devices, examining objects and documenting their conditions (including photography), and identifying sources of deterioration for various materials. Students will conduct tests, evaluate exhibition and storage areas, and participate in improving and correcting museum conditions. Prerequisite: Anth/Art 292.

Fourth Group

Limited to art history doctoral candidates. Offered as the demand requires. May be repeated for credit.

385-86 **Readings in Art History** (3-3)

398 **Advanced Reading and Research** (arr.)

For students preparing for the doctoral examination.

399 **Dissertation Research** (arr.)

FINE ARTS

First Group

21-22 **Design I: Basic** (3-3)

Costigan, Teller

Required of all Fine Arts majors. Fundamental studies of principles and elements of design. Art 21: study of two-dimensional design. Art 22: three-dimensional studies. Art 21: Laboratory fee, \$24. Art 22: Laboratory fee, \$27. (Art 21 and 22—fall and spring)

23 **Photography I: Introduction** (3)

Lake and Staff

Introduction to the principles of exposure and development of films and papers. Emphasis on creative expression. Laboratory fee, \$75. (Fall and spring)

24 **Photography II** (3)

Stephanic

Continuation of Art 23. Experimentation with black and white films and developers. Improvement of printing and exposure techniques. Emphasis on control for creative expression. Prerequisite: Art 23. Laboratory fee, \$75. (Fall and spring)

41-42 **Drawing I** (3-3)

Wright and Staff

Elementary investigation of concepts of drawing, both traditional and contemporary; training in perception, analysis of form in light and space; instruction in the use of graphic materials and media; exercises in connoisseurship. Material and model fee, \$75 per semester. (Art 41 and 42—fall and spring)

51 **Introduction to Handbuilt Ceramics** (3)

Ozdogan and Staff

Working with clay as an art form. Exploration of pinch, coil, slab, hump and press mold, paddling, and hollowing techniques. Sketch studies, reduction and oxidation kiln firings, clay and glaze making. Laboratory fee, \$57, including unlimited materials and use of tools. (Fall and spring)

52 **Introduction to Wheelthrown Ceramics** (3)

Ozdogan and Staff

Development of cylindrical and open forms. Trimming, clay and glaze making, reduction and oxidation kiln firings. Sketch studies. Laboratory fee, \$57, including unlimited materials and use of tools. (Fall and spring)

57 **Printmaking: Introduction to Relief and Planographic Techniques** (3)

Griffith

Exploration in monochrome and color of basic methods of these techniques, i.e., woodcut, composite relief, monotype, and lithography. Emphasis on aesthetic qualities of prints. Laboratory fee, \$36. (Fall)

- 58 **Printmaking: Introduction to Intaglio and Stencil Techniques** (3)
Exploration in monochrome and color of basic methods of these techniques, i.e. etching, engraving, collograph, stencil, and composite intaglio. Laboratory fee, \$36. (Spring) Griffith
- 61-62 **Water Color** (3-3)
Painting in transparent and opaque water color and in acrylic. Experimentation, figurative, and landscape. Laboratory fee, \$45 per semester. (Academic year) Staff
- 65-66 **Painting I** (3-3)
Emphasis on personal expression with exposure to a variety of styles. Application of design principles to easel painting. Material and model fee, \$39 per semester. (Academic year) A. Smith and Staff
- 81-82 **Sculpture I** (3-3)
Beginning study of design and fabrication of sculpture. Basic sculptural techniques for media, including clay, plaster, stone, and wood. Laboratory fee, \$27 per semester. (Academic year) Gates and Staff

Second Group

Second-group art courses may be repeated for credit with approval of the department.

- 123-24 **Individual Problems** (3-3)
Emphasis on problems and materials of specific interest to the student in any area of Fine Arts. Laboratory fee depending on area chosen. * Prerequisite: permission of instructor. (Academic year) Staff
- 125-26 **Painting II** (3-3)
Alteration of personal expression and structured problems dealing with still life and the figure. Use of acrylic and oil. Material and model fee, \$39 per semester. (Academic year) A. Smith
- 127-28 **Painting III** (3-3)
Studies in the interpretation of the figure and still life. Emphasis on color, space, planes, modulations. Alla prima and mixed techniques. Material and model fee, \$39 per semester. (Academic year) Woodward
- 131 **Intermediate Ceramics: Wheelthrown Functional Forms** (3)
Aesthetic and technical development of wheelthrown functional ceramic forms. Exploration of attachments: lids, spouts, handles, and footing devices. Sketches and technical drawings, clay and glaze-making tests, varied temperature firing in reduction and oxidation atmospheres. Laboratory fee, \$57. (Fall and spring) Ozdogan and Staff
- 132 **Intermediate Ceramics: Wheelthrown Nonfunctional Forms** (3)
Aesthetic and technical development of wheelthrown ceramic sculptural forms. Emphasis on section throwing, closed forms, and construction. Varied temperature firings in oxidation and reduction atmospheres. Clay and glaze making. Laboratory fee, \$57. (Fall and spring) Ozdogan and Staff
- 133 **Ceramic Decoration** (3)
Aesthetic and technical development of surface decoration, with experimental projects in sgraffito, mishima, engobe, majolica, underglaze, overglaze, and relief techniques. Laboratory fee, \$57. (Fall) Ozdogan
- 134 **Nonsilver Printing Processes in Photography** (3)
Introduction to nonsilver and archaic photographic processes. At least three processes will be explored. Emphasis on creative expression. Prerequisite: Art 23 and 24 or permission of instructor. Laboratory fee, \$75. (Spring) Smigrod

* Schedule of Fees: Ceramics—\$57; 2-D Design—\$24; 3-D Design—\$27; Drawing—\$75; Printmaking—\$36; Sculpture—\$27; Typography—\$54; Oil and Acrylic Painting—none; Watercolor—\$45; Photography—\$75; Visual Communication—\$54; Lithography—\$48; Serigraphy—\$54; Jewelry Design—\$36.

- 135-36 **Advanced Water Color** (3-3)
Development of techniques of water color; concentration on special projects.
Laboratory fee, \$45 per semester. (Academic year)
- 137 **Workshop in Materials, Methods, and Techniques** (3)
Technical investigation of painting methods from the 14th century to the present.
Preparation of grounds, media, underpainting, glazing. Laboratory fee, \$15.
(Fall and spring) Woodward, A. Smith, and Staff
- 138 **Printmaking: History and Practice** (3)
Lecture survey through slides and original prints of the history of the fine art
etching, engraving, woodcut, stencil, and lithograph. Laboratory demonstrations
with student participation. This basic course is designed for artists, art histo-
rians, art dealers, appraisers, librarians, commercial artists, and collectors. There
is no prerequisite. Laboratory fee, \$24. (Summer) Griffith
- 139 **Problems in Color** (3)
Intensive exploration of the subjective experience and objective rationale of color
through the execution of problems in color contrast and color scale. Laboratory
fee, \$18. (Spring) Costigan
- 141 **Interior Design** (3)
Survey of basic interior design materials and techniques. Topics include floor
plans and design, interior renderings, hard and soft materials, furniture styles.
Laboratory fee, \$21. (Fall) Teller
- 142 **Interior Design Problems** (3)
A theoretical and practical in-depth exploration of a specific area of interior
design selected from furniture design, construction and restoration, history of
furnishings, and interior rendering. Topic to be announced in the *Schedule of*
Classes. Prerequisite: Art 141 or equivalent. Laboratory fee, \$21. (Spring) Teller and Staff
- 143-44 **Serigraphy** (3-3)
Fine Arts printmaking using serigraphic techniques. Utilization of all basic
techniques; emphasis on aesthetic properties of prints. Laboratory fee, \$54 per
semester. (Academic year) Teller
- 146 **Ceramic Restoration** (3)
Methods and techniques for museum and commercial application. Laboratory
fee, \$57. (Summer) Ozdogan
- 151 **Ceramic History and Technology** (3)
A survey of the history of ceramics and its technology. Lectures, demonstrations,
and supplemental programs. Laboratory fee, \$21. (Fall) Ozdogan and Staff
- 152 **Ceramic Sculpture** (3)
Developing an understanding of the sculptural ceramic form that integrates both
quality and creativity. Techniques in hollow and solid construction. Varied
temperature firings in reduction and oxidation atmospheres. Laboratory fee, \$57.
(Fall) Ozdogan
- 153 **Printmaking: Intermediate Study of Intaglio and Relief Techniques** (3)
Investigation in monochrome and color of these techniques, i.e., etching, engrav-
ing, woodcut, wood engraving, stencil, composite processes, and mixed media.
Prerequisite: Art 57, 58. Laboratory fee, \$36. (Fall) Griffith
- 154 **Printmaking: Introduction to Light-Sensitive Grounds** (3)
Exploration of the use of grounds on copper that are sensitive to light for the
purpose of etching. Printing in monochrome and color. Prerequisite: Art 153 or
equivalent. Laboratory fee, \$36. (Spring) Griffith
- 157-58 **Printmaking: Advanced Study of Intaglio and Relief Techniques** (3-3)
Intensive exploration in monochrome and color of printmaking: etching, engrav-
ing, woodcut, wood engraving, stencil, collograph printing with light-sensitive
grounds, composite techniques, and mixed media. Emphasis on utilization of
techniques in developing a personal statement and style. Prerequisite: Art 153,
154, or equivalent. Laboratory fee, \$36. (Fall and spring) Griffith

- 159-60 **Drawing II (3-3)** Wright and Staff
Study and application of master drawing techniques. Investigation of perspective and anatomy. Emphasis upon conceptual development of personal style. Material and model fee, \$75 per semester. (Academic year)
- 163 **Visual Communication I: Basic Layout (3)** Molina and Staff
Layout stages, including basic formats, production processes; working with type and basic skills. Prerequisite: Art 171. Laboratory fee, \$54.
- 164 **Visual Communication II: Problem Solving (3)** Molina and Staff
Conceptual approach to problem solving. Various graphic design problems, including both small-format and large-format design in commercial and institutional graphics. Prerequisite: Art 163, 172. Laboratory fee, \$54.
- 166 **Advanced Drawing Techniques (3)** A. Smith and Staff
Specific area announced in the *Schedule of Classes*. May be repeated for credit if the area covered is different. Laboratory fee, \$75.
- 168 **Intermediate Ceramic Design in Handbuilding (3)** Ozdogan
Further concentration in handbuilding techniques of pinch, coil, slab, hump and press mold, paddling, and hollowing. Sketch studies, clay and glaze tests. Orientation to studio operations and maintenance. Laboratory fee, \$57. (Fall and spring)
- 171 **Typography I (3)** Molina and Staff
Basic calligraphy for traditional and contemporary use. Type theory, including specification, copy fitting, and study of letter form as used in graphic design. Laboratory fee, \$54.
- 172 **Typography II (3)** Molina and Staff
Study of type classification, recognition, and adaptation. Methods of type specification, copy fitting, and typesetting processes. Typographic layout and alphabet design. Prerequisite: Art 171. Laboratory fee, \$54.
- 174 **Visual Communication III: Computer Graphics Seminar (3)** Molina and Staff
Introduction to computer graphics for art majors. The use of computers in the design process and as a tool for problem solving in graphic design. Laboratory fee, \$54.
- 175 **Printmaking: Introduction to Lithography (3)** Barnhart
Study of techniques and materials related to printing images from stones and metal litho plates. Prints in crayon, tonal washes, and multicolor. Laboratory fee, \$48.
- 177-78 **Survey of Printing and Illustration (3-3)** Staff
Exposure to a maximum range of illustrative processes, both practical and theoretical. Technical aspects of commercial printing processes; methods of preparation of artwork, photographs, and typographic proofs for commercial reproduction. (Academic year)
- 179-80 **Sculpture II (3-3)** Gates
Expansion of Sculpture I, utilizing advanced wood milling equipment and metal welding techniques. Prerequisite: Art 81-82. Laboratory fee, \$27.
- 181 **Introduction to Color Photography (3)** Lake
Introduction to color through exposure and processing of color transparency films. Use of filters for creating and correcting color shifts, with emphasis on color as subject matter. Prerequisite: Art 23 and 24 or permission of instructor. Laboratory fee, \$75. (Fall)
- 182 **Introduction to Photographic Lighting (3)** Stephanie
Introduction to various lighting techniques. Available light manipulation, studio lighting, and copy lighting will be explored. Emphasis on creative expression. Prerequisite: Art 23 and 24 or permission of instructor. Laboratory fee, \$54. (Fall and spring)
- 183 **Experimental Photography (3)** Staff
Structured exploration of various photographic processes and techniques. Emphasis on creative expression. Content of course will vary; contact department for current offering. Prerequisite: Art 23 and 24 or permission of instructor. Laboratory fee, \$75. (Fall and spring)

- 184 **Jewelry Design and Techniques** (3) Gates
Laboratory fee, \$36. (Summer)
- 185-86 **Portrait Painting and Drawing** (3-3) C. Smith
Fall: Various media; drawing and pastel. Spring: Oil. Model fee, \$45 per semester.
- 189-90 **Sculpture III** (3-3) Gates
Advanced study in concepts and materials through creation of three-dimensional forms concentrating on relevance of scale and media. Relationship of sculpture to the environment. Prerequisite: Art 179-80. Laboratory fee, \$27 per semester. (Academic year)
- 193 **Film Making I** (3) Staff
Introduction to the basic techniques and procedures for film making. Prerequisite: Art 23 and 24 or permission of instructor. Laboratory fee, \$54. (Fall and spring)
- 194 **Film Making II** (3) Staff
Continuation of Art 193 with more advanced projects. Prerequisite: Art 193 or permission of instructor. Laboratory fee, \$54. (Fall and spring)
- 195 **Documentary Photography** (3) Staff
Historical development of documentary photography. Completion of two projects required. Laboratory fee, \$75. Prerequisite: Art 23 and 24 or permission of instructor. Same as Jour 195. (Fall)

Third Group

All third-group art courses may be repeated for credit with the approval of the department.

- 205 **Advanced Photography: Zone System Tests** (3) Lake
Tone control through exposure development tests. Completion of laboratory manual required. Prerequisite: Art 181 and 182 or permission of instructor. Laboratory fee, \$75. (Fall and spring)
- 206 **Advanced Photography: Color Printing and Zone Proofs** (3) Lake
Printing from color negatives. Correct color balancing and creative color shifts will be explored. Development of portfolio of prints utilizing approved theme and the exposure and development times established in Art 205. Prerequisite: Art 181 or 205, as determined by instructor. Laboratory fee, \$75. (Fall and spring)
- 208 **Advanced Photography: Special Projects** (3) Lake and Stephanic
Independent projects requiring approval prior to registration. Prerequisite: Art 181 and 182, or permission of instructor. Laboratory fee, \$75. (Fall and spring)
- 209-10 **Exhibition and Display Design** (3-3) Miller
- 224 **Advanced Ceramic Sculpture** (3) Ozdogan
Continuation of Art 152 with emphasis on individual approach. Exploration of mixed media and mold casting. Laboratory fee, \$57. (Fall)
- 225 **Advanced Ceramic Decoration** (3) Ozdogan, Smith
Perfection of decorating techniques. Students establish style through independent exploration. Laboratory fee, \$57. (Spring)
- 226 **Architectural Ceramics** (3) Ozdogan
Advanced studies in ceramic murals and sculptures designed for indoor and outdoor architectural concepts. Laboratory tests and activities. Laboratory fee, \$57. (Spring)
- 231-32 **Design III** (3-3) Gates
New media and techniques in three-dimensional design. Laboratory fee, \$27 per semester. (Academic year)
- 234 **Design IV: Jewelry Design** (3) Gates
Theory and fabrication of jewelry using basic metal techniques, assemblage approach, and lost-wax casting. Laboratory fee, \$36. (Fall and spring)
- 235 **Design V: Textile Printing** (3) Teller
Designing and executing textiles using the techniques of silk screen, block print, and batik. Laboratory fee, \$24. (Fall and spring)

- 248 **Independent Research in Fine Arts (3)**
For master's degree candidates; open to limited number of qualified undergraduates, with permission. Independent research arranged in consultation with individual instructor and graduate advisor. May be repeated for credit. Laboratory fee depending on area chosen.* (Fall and spring)
- 249 **Theory of Design (3)** Costigan
Application of design principles to problems of the artist in all disciplines. Emphasis on individual creativity, presentation, and criticism. Guest lectures on issues in contemporary art. Open to all M.F.A. candidates and to seniors with permission of instructor. Laboratory fee, \$9.
- 251 **Advanced Ceramic Design in Wheel Throwing (3)** Ozdogan
Individual projects on the potter's wheel. Student establishes personal style and direction and perfects skills. Either pottery or sculptural approaches encouraged. Research in clays, glazes, and firings is required. Laboratory fee, \$57. (Fall and spring)
- 252 **Advanced Ceramic Design in Hand Building (3)** Ozdogan
Individual projects in hand building. Student establishes style and direction and perfects skills. Either pottery or sculptural approaches encouraged. Research in clays and glazes is required. Laboratory fee, \$57. (Fall and spring)
- 253 **Industrial Ceramic Design/Mold Making (3)** Ozdogan
Study in the multiple production process from model making to finished duplicate form as it exists on factory level. Methods include all aspects of model designing and making in clay and plaster; mold making in plaster; production methods from molds including press molding, slip casting, jiggering, and jolly-ing. Laboratory fee, \$57. (Fall and spring)
- 254 **Ceramic Glazes: Calculation and Formulation (3)** Staff
Laboratory fee, \$21.
- 255-56 **Printmaking: Advanced Serigraphy (3-3)** Teller
Utilization of principles and techniques of serigraphy toward development of personal statement and style. Prerequisite: Art 143-44. Laboratory fee, \$54 per semester. (Academic year)
- 257-58 **Printmaking: Etching and Engraving (3-3)** Griffith
Advanced problems in etching and engraving, including composite processes, light-sensitive grounds, mixed media, and theoretical and practical problems of color prints. Laboratory fee, \$36. (Fall and spring)
- 259 **Printmaking: Advanced Lithography (3)** Barnhart
Individual problems in lithography related to printing images from stones and metal litho plates. Prints in crayon, tonal washes, and multicolor. Emphasis on mastering the lithographic process and developing a personal statement and style. Laboratory fee, \$48.
- 260 **Printmaking: Relief Printing (3)** Griffith
Advanced problems, practical and theoretical, in woodcut, wood engraving, collograph, composite techniques, and mixed media in monochrome and color. Laboratory fee, \$36. (Fall and spring)
- 265-66 **Painting IV (3-3)** Woodward
Alternatives in pictorial dynamics. Assigned studio and independent problems in alla prima and mixed techniques. Material and model fee, \$39 per semester. (Academic year)
- 267-68 **Individual Problems in Photography (3-3)** Stephanic
Limited to M.F.A. candidates and qualified undergraduates. Prerequisite: Permission of instructor and approval of project prior to registration. May be repeated for credit. Laboratory fee, \$75 per semester. (Academic year)

* Schedule of Fees: Ceramics—\$57; 2-D Design—\$24; 3-D Design—\$27; Drawing—\$75; Printmaking—\$36; Sculpture—\$27; Typography—\$54; Oil and Acrylic Painting—none; Watercolor—\$45; Photography—\$75; Visual Communication—\$54; Lithography—\$48; Serigraphy—\$54; Jewelry Design—\$36.

- 275 **Painting V** (3) Woodward
Development of personal imagery. Individual problems and critiques. Material and model fee, \$39.
- 277 **Advanced Visual Communication: Packaging Design and Illustration** (3) Molina
Advanced studio projects. May be repeated for credit provided the content differs. Laboratory fee, \$36. (Fall and spring)
- 278 **Advanced Visual Communication: Problem Solving and Applied Design** (3) Molina
Advanced studio projects. May be repeated for credit provided the content differs. Laboratory fee, \$36. (Fall and spring)
- 279-80 **Sculpture IV** (3-3) Gates
Advanced study aimed at development of concept and style. Prerequisite: permission of instructor. Laboratory fee, \$27. (Academic year)
- 281 **Sculpture V** (3) Gates
Emphasis on individual sculptural concepts and materials. Prerequisite: permission of instructor. Laboratory fee, \$27. (Fall and spring)
- 299-300 **Thesis Research** (3-3) Staff
Laboratory fee depending on area chosen.* (Fall and spring)

ART THERAPY—GRADUATE PROGRAM

Adjunct Professor E. Ulman (Emeritus)
Adjunct Associate Professor E. Kramer
Assistant Professor K.J. Williams (Program Director)
Adjunct Assistant Professors W. Maiorana, A.J. DiMaria, A. Corson, C.T. Cox
Clinical Instructors B.K. Mandel, N.J. Miller, M.M. Eife, T. Tripp
Lecturers B. Barthell, G. Fenster

Master of Arts in the field of art therapy—Prerequisite: a bachelor's degree, evidence of significant training and/or experience in art, including painting, drawing, and clay modeling; course work in the behavioral and/or social sciences, including personality theory, abnormal psychology, and child psychology.

Required: the general requirements stated under the Graduate School of Arts and Sciences and successful completion of 36 credit hours of graduate course work. At least 24 credit hours must be in art therapy and must include ArTh 201, 203, 205-6 or 207 and 208, 224, 226, and 283-84.

Fields of emphasis: adult art therapy, family art therapy, child art therapy, and research.

Bachelor of Arts/Master of Arts in the field of art therapy—A five-year program leading to the B.A. in the field of fine arts or psychology and the M.A. in the field of art therapy. The first three years of the program consist of undergraduate course work. Application for admission to the M.A. program in art therapy will be made to the Graduate School of Arts and Sciences during the second semester of the third year; for admission to the graduate portion of the program, acceptance must be obtained prior to the start of the fourth year of the program. If acceptance to the M.A. program in art therapy is not desired or not obtained, the requirements for the B.A. degree in the undergraduate field chosen may be fulfilled by the successful completion of appropriate courses during the fourth year of study. If acceptance into the M.A. program in art therapy is obtained, the B.A. will be awarded after the successful completion of the fourth year of the program. Study during the summer following the award of the bachelor's degree and the following academic year would normally complete the M.A. degree requirements.

* **Schedule of Fees:** Ceramics—\$57; 2-D Design—\$24; 3-D Design—\$27; Drawing—\$75; Printmaking—\$36; Sculpture—\$27; Typography—\$54; Oil and Acrylic Painting—none; Watercolor—\$45; Photography—\$75; Visual Communication—\$54; Lithography—\$48; Serigraphy—\$54; Jewelry Design—\$36.

The following requirements must be fulfilled:

1. Students must meet the general requirements stated under Columbian College of Arts and Sciences and the Graduate School of Arts and Sciences.
2. The course requirements for the B.A. in either fine arts or psychology and for the M.A. in art therapy must be met.

- 201 Introduction to Art Therapy (3)** DiMaria
Lectures, presentation of illustrative case material, class discussion of assigned readings, field work. Survey covering range of art therapy practice, personality assessment and treatment approaches, historical development, main theoretical trends. Open only to art therapy degree candidates. (Fall)
- 202 Case Studies in Art Therapy (3)** DiMaria
Discussion of case material provided by students in order to refine methods of working and to improve written and oral reports. Instructor and other practitioners may provide supplementary illustrative material. Assigned reading. Prerequisite: ArTh 201, 203; open to others with permission of instructor. (Spring)
- 203 Technique of Art Therapy (3)** Williams
Art therapy approaches with individuals and groups of different diagnostic categories in various settings presented through illustrative clinical examples. Students experiment with numerous techniques through the use of art materials. Open only to art therapy degree candidates. (Fall)
- 204 Psychodynamic Processes in Art Therapy (3)** Kramer
Concepts of instinctual drives; ego development; mechanisms of defense; sublimation; transference and countertransference; maturation and regression applied to work with children, adults, families, and groups. (Spring)
- 205-6 Family Art Techniques (3-3)** Fenster and Staff
Principles of work with families, with emphasis on the use of art techniques for evaluation of family dynamics. The major focus is on opportunities to conduct and observe family art evaluations. Enrollment is limited to 12. Prerequisite: ArTh 201, 203. Open to art therapy degree candidates only. (Fall and spring)
- 207 Art as Therapy with Children (3)** Maiorana
Introduction to the practical and theoretical considerations involved in art as therapy with children. Focus on psychodynamics, artistic developmental stages, methods of child art evaluation, and basic issues in therapeutic guidance of the child. Prerequisite: ArTh 201, 203; open to others with permission of instructor. (Fall)
- 208 Art Therapy with Adolescents (3)** Corson
Theoretical and practical issues in art therapy with adolescents in educational and clinical settings. Experiential work in art techniques appropriate to this population. Class discussion of readings on adolescent development. Prerequisite: ArTh 201, 203; open to others with permission of instructor. (Spring)
- 211 Survey of Art Therapy (3)** Barthell
Use of visual arts to enhance personal development; history, theories, range of practice in art therapy. Illustrated lectures, reading, discussion, studio work. Not intended for art therapy degree candidates. Open to advanced undergraduates with permission of instructor. (Fall)
- 224 Process of Art Therapy (3)** Maiorana, Williams
Exploration of the treatment process through discussion of literature from art therapy and related fields. Several critical papers will be required. Must be taken concurrently with ArTh 226. (Spring)
- 226 Process of Art Therapy (3)** Maiorana, Williams
Exploration of the treatment process through rehearsal of fundamental ways of being a therapist and presentation of case material from field experience. Video and audiotaping required. Must be taken concurrently with ArTh 224. (Spring)

- 275 **Group Art Therapy** (3) Williams
Experience as participant, observer, and leader in an art-centered group; required reading; theory of group process. Open to art therapy master's degree candidates and others with permission of instructor. (Summer)
- 283-84 **Practicum in Art Therapy** (3-3) Staff
Minimum of 300 hours field work per semester connected with service to clients. On-the-job supervision supplemented by group supervision from the art therapy staff. Prerequisite: ArTh 201 and 203. Open only to art therapy degree candidates.
- 285 **Special Projects in Art Therapy** (arr.) Staff
Individual work based on research. Empirical, clinical, and library research may be undertaken, as well as the development of new procedures. Details to be worked out with each student. May be repeated for credit with advisor's approval. Open only to degree candidates. (Fall and spring)
- 289 **Special Topics in Art Therapy** (1 to 3) Staff
Connections between art therapy and other disciplines; new developments in the field. May be repeated for credit with approval of advisor. Open to art therapy degree candidates and others with permission of instructor.
- 290 **Workshops in Art Therapy** (3) Staff
Art therapists and other mental health professionals will conduct four weekend workshops during the semester. Emphasis on the elucidation of concepts of treatment through lectures, discussion, and participation. (Fall)
- 298 **Reading and Research** (1 to 3) Staff

ASSOCIATION MANAGEMENT—GRADUATE PROGRAM

See the School of Government and Business Administration for the program of study leading to the degree of Master of Association Management.

- 270 **The Association: Roles, Influence** (3) Ernstthal
Introduction to the Association Management Program; development and nature of interest representation; its history; varieties of associations and their roles and functions; legal constraints, responsibilities, and ethics. (Fall and spring)
- 271 **Marketing Management for Associations** (3) Staff
Market analysis, product planning, channels of distribution, pricing, and promotional decision making are presented, with particular application to associations. Topics include membership recruitment; fees, dues, and other monetary issues; physical location of the association; staff-membership contacts; promotion of association goals. (Fall)
- 272 **Communications and Media Relationships for Associations** (3) Kasle
Primarily for students in association management. The nature of the communication process, including both interpersonal and organizational communication. Problems and approaches; barriers to good communication. Methods of improving organizational communication. The media and their role; approaches to media relationships. (Spring)
- 273 **Association Law and Lobbying** (3) Staff
The role of the association in the political process, including the context within which interests are represented before Congress and the executive branch. Interest groups and their ideas and techniques. Rules and regulations governing lobbying activities and personnel matters. (Spring)
- 274 **Marketing Strategy for Associations** (3) Divita
Analysis of complex marketing problems of associations that involve policy and operational decisions. Creative marketing strategy. Prerequisite: AM 271. (Summer)
- 275 **Information Systems for Associations** (3) Staff
Introduction to the concepts of information systems as employed in associations. Data-base management systems, telecommunications systems, small business computers. (Fall)

- 276 **Organization and Management of Associations (3)** Ernstthal
Integrative approach to organizational and management concepts, theories, and practices, with particular attention to the problems of associations and similar types of organizations. Functions, roles, and responsibilities of the association manager. (Spring)
- 277 **Financial Management for Associations (3)** Staff
An overview of basic accounting principles and practices as they apply to associations, with attention to the economics of association management and financial planning, reporting, and auditing. Investments, revenues, bonds, debt, government funds. (Fall)
- 279 **Current Issues in Association Management (3)** Ernstthal
A review of elements of association management, with attention to the number and variety of associations and their responsibilities. Particular attention is given to the problems associations face now and will face in the future. A capstone seminar providing a review and synthesis of the Association Management Program. A significant research project is required. (Fall and spring)

ASTRONOMY

See Physics.

BIOCHEMISTRY—GRADUATE PROGRAMS

Professors J.M. Bailey, A.L. Goldstein (Chair), L.L. Gallo, A. Kumar, R.S. Schulof, G. Walker
Associate Professors T. Moody, J.Y. Vanderhoek, G. Fiskum, V. Hu

Master of Science in the field of biochemistry—Prerequisite: a bachelor's degree. The undergraduate program must have included the following courses, or equivalent: BiSc 11–12; Chem 11–12, 22, 151–52, 153–54; Phys 1, 2.

Required: the general requirements stated under the Graduate School of Arts and Sciences, including Bioc 221–22, 223, 227, 234, 250, 266, 299–300, and the Comprehensive Examination. It is expected that students will complete all of the required work in approximately two years.

Doctor of Philosophy in the field of biochemistry—Required: the general requirements stated under the Graduate School of Arts and Sciences, including Bioc 221–22, 223, 227, 234, 250, 266, 398, 399, and the General Examination.

Research fields: endocrinology—thymosins, steroid hormones, prostaglandins; viral gene regulation, antiviral chemotherapy, immunology—immunochemistry, viral gene transactivation; lipids and membranes—essential fatty acids, membrane biochemistry, lipoproteins, complex lipids, cholesterol, peroxides, atherosclerosis; complement, toxins, HIV–1, neurochemistry—growth factors, bombesin, peptide receptors; bioenergetics—mitochondria, Ca^{2+} transport, tumor cell metabolism, ischemia.

- 221–22 **General Biochemistry (4–4)** Fiskum, Hu, and Staff
A comprehensive course in general biochemistry for graduate students in biomedical sciences and undergraduate students in biology and chemistry. Prerequisite: Chem 152, 154. (Academic year)
- 223 **Physical Biochemistry (3)** Vanderhoek
Lectures cover basic laboratory techniques used in contemporary biochemical and molecular biological research. (Fall)
- 227 **Biochemistry Seminar (1)** Fiskum and Vanderhoek
Current literature in biochemistry. Limited to graduate students in the department. May be repeated for credit. (Fall and spring)
- 230 **Current Topics in Enzymology (2)** Bailey and Staff
Directed readings in various areas of enzymology. May be repeated for credit. Enrollment limited to graduate students in the department. Prerequisite: Bioc 234.

- 234 **Structure and Function of Proteins and Enzymes** (3) Hu and Staff
Structure-function relationships of proteins, enzyme kinetics, regulation and reaction mechanisms, and other special topics. Prerequisite: Bioc 221. (Spring)
- 235 **Current Topics in Bioenergetics** (1 or 2) Fiskum
Directed readings in various areas of bioenergetics. May be repeated for credit. Enrollment limited to graduate students in the department. Prerequisite: Bioc 222.
- 240 **Nutrition** (2) Walker and Staff
Content includes discussion of RDA, nitrogen balance, vitamins and minerals, diets, and other special topics. Prerequisite: Bioc 201 or 221-22. (Spring)
- 250 **Molecular Biology** (3) Kumar and Staff
Content includes the organization and replication of genetic material, transcriptional and translational machinery, regulation of eukaryotic gene expression, and other special topics. Prerequisite: Bioc 201 or 221-22. (Fall)
- 251 **Current Topics in Molecular Biology** (1 or 2) Kumar and Staff
Directed readings in the area of molecular biology. May be repeated for credit. Enrollment limited to graduate students in the department; others may enroll with approval of instructor. Prerequisite: Bioc 250.
- 252 **Biochemical and Molecular Aspects of Selected Diseases** (2) Kumar and Staff
Emphasis on the biochemical and molecular aspects of selected diseases. The format will be of a tutorial type, including presentations of material by students. (Spring)
- 260 **Biochemistry of Lipids and Membranes** (2) Vanderhoek
Biochemistry, structure, and function of various lipid classes, membranes, and receptors. Prerequisite: Bioc 221-22. (Spring)
- 261 **Current Topics in Lipids** (1 or 2) Gallo, Vanderhoek, and Staff
Directed readings in the area of lipid biochemistry. May be repeated for credit. Enrollment limited to graduate students in the department. Prerequisite: Bioc 260.
- 262 **Lipoproteins** (2) Gallo
Composition, synthesis, and metabolism of lipoproteins in normal and dyslipoproteinemic subjects. Prerequisite: Bioc 221-22. (Spring)
- 266 **Cellular Biology** (3) Fiskum, Vanderhoek, and Staff
Structure and function of cellular membranes, cytoskeleton, subcellular organelles, cellular bioenergetics, and intercellular interactions. Prerequisite: Bioc 221-22. (Spring)
- 270 **Biochemistry and Cell Biology of the Immune Response** (2) Naylor* and Staff
Biochemical aspects of the immune response at the molecular and cellular level. Modern experimental approaches to immunology and cell biology. Prerequisite: Bioc 221-22 and Micr 229, or permission of instructor. (Spring)
- 271 **Current Topics in Immunology** (1 or 2) Goldstein and Staff
Directed readings in the area of biochemical immunology. May be repeated for credit. Enrollment limited to graduate students in the department. Prerequisite: Bioc 270.
- 280 **Neurochemistry** (2) Moody and Staff
Content includes molecular structure and function of nerve tissue; intra- and interneuronal communication mechanisms; biochemistry of various brain dysfunctions; and other special topics. Prerequisite: Bioc 201 or 221-22. (Fall)
- 281 **Current Topics in Neurochemistry** (1 or 2) Moody and Staff
Directed readings in neurochemistry. May be repeated for credit. Enrollment limited to graduate students in the department. Prerequisite: Bioc 280.

* Paul Henry Naylor is Associate Research Professor of Biochemistry in the GW School of Medicine and Health Sciences.

- 295 **Research in Biochemistry** (arr.)
Participation in a project under investigation in the department or one in a related field suggested by the student and approved by the staff. Content differs each time course is offered; may be repeated for credit. (Fall and spring)
- 299–300 **Thesis Research** (3–3)
(Fall and spring)
- 398 **Advanced Reading and Research** (arr.)
Limited to students preparing for the Doctor of Philosophy general examination. May be repeated for credit. (Fall and spring)
- 399 **Dissertation Research** (arr.)
Limited to Doctor of Philosophy candidates. May be repeated for credit. and spring)

BIOLOGICAL SCIENCES

Professors S.O. Schiff, D.L. Atkins, R.K. Packer (Chair), R. Donaldson
Adjunct Professor C.G. McWright
Professorial Lecturers R.P. Eckerlin, D. Goldman
Associate Professors R.E. Knowlton, H. Merchant, T.L. Hufford, D.E. Johnson, J.R. Burns,
K.M. Brown, D.L. Lipscomb
Associate Professorial Lecturer P.E. Spiegler
Assistant Professors E.F. Wells, H.B. Wagner, D.W. Morris

Bachelor of Arts with a major in biology, botany, or zoology—The following requirements must be fulfilled:

1. The general requirements stated under Columbian College of Arts and Sciences.
2. Prerequisite courses—BiSc 11–12, or equivalent.
3. Chem 11–12; Chem 151–52 and 153–54, or Chem 50. (The following courses are strongly recommended: Math 31; Phys 1, 2, 5, and 6; two years of French, German, or Russian; Stat 91 or 127.)
4. (a) Required courses for the major in biology—A minimum of 24 semester hours of second-group courses, which should include at least 6 hours in biology, 6 in botany, and 6 in zoology.
(b) Required courses for the major in botany—A minimum of 24 semester hours of second-group courses; a minimum of 12 hours must be taken in botany, and no more than one zoology course may be included.
(c) Required courses for the major in zoology—A minimum of 24 semester hours of second-group courses; a minimum of 12 hours must be taken in zoology, and no more than one botany course may be included.

Bachelor of Science with a major in biology, botany, or zoology—The following requirements must be fulfilled:

1. The general requirements stated under Columbian College of Arts and Sciences.
2. Prerequisite courses—BiSc 11–12, or equivalent.
3. Required courses in related areas—Chem 11–12; Chem 151–52 and 153–54, or Chem 50; Phys 1, 2, 5, and 6; 3 semester hours of either mathematics or statistics (this requirement cannot be satisfied by waiver). Two years of French, German, or Russian are strongly recommended but not required.
4. (a) Required courses for a major in biology—A minimum of 30 semester hours of second-group courses, which should include at least 7 hours in biology, 7 in botany, and 7 in zoology.
(b) Required courses for the major in botany—A minimum of 30 semester hours of second-group courses; a minimum of 15 hours must be taken in botany, and no more than two zoology courses may be included.
(c) Required courses for the major in zoology—A minimum of 30 semester hours of second-group courses; a minimum of 15 hours must be taken in zoology, and no more than two botany courses may be included.

A maximum of 6 semester hours of independent study, undergraduate research, or graduate courses in biological sciences may be used to fulfill second-group course requirements for all majors.

Special Honors—In addition to the general requirements stated under Regulations, in order to be considered for graduation with special honors, a student must maintain a cumulative 3.5 quality-point index in biological science courses and at least a 3.0 cumulative overall quality-point index.

Minor in biology—12 semester hours of second-group courses (excluding BiSc 171 through 176), which must include at least 3 hours in biology, 3 in botany, and 3 in zoology.

Minor in botany—12 semester hours of second-group courses (excluding BiSc 171 through 176), of which 8 hours must be in botany.

Minor in zoology—12 semester hours of second-group courses (excluding BiSc 171 through 176), of which 8 hours must be in zoology.

Master of Science in the field of biology, botany, or zoology—Prerequisite: a bachelor's degree with a major in one of the following from this University, or an equivalent degree: (1)

Biology field—an undergraduate major in biology, botany, or zoology; (2) **Botany field**—an undergraduate major in botany or biology; (3) **Zoology field**—an undergraduate major in zoology or biology. The undergraduate program must have included the following courses, or equivalent: Chem 151-52 and 153-54, or 50; Math 31; Phys 1, 2.

Required: the general requirements stated under the Graduate School of Arts and Sciences. The minimum requirement consists of 24 semester hours of approved course work plus a thesis (equivalent to 6 semester hours). With the permission of the department, a student may elect a program of study consisting of 36 semester hours of approved course work without a thesis.

Master of Arts in the field of museum studies, with specialization in the biological sciences, see Museum Studies.

Doctor of Philosophy in the field of biology, botany, or zoology—Required: the general requirements stated under the Graduate School of Arts and Sciences, plus satisfactory completion of a Preliminary Examination and the General Examination in at least three areas of biology. The program of study and fields of study are determined in consultation with an advisory committee appointed for each candidate.

Major Research Areas: ecology, evolution and systematics, plant biology, genetics, cell and molecular biology, developmental biology, vertebrate and invertebrate anatomy and physiology, marine and freshwater biology.

Master of Science and Doctor of Philosophy in the field of geobiology, see Geobiology.

Departmental prerequisite: BiSc 11-12 or equivalent is prerequisite to all second-group courses in biology, botany, and zoology, except by permission of the instructor.

BIOLOGY

First Group

3-4 Introductory Biology for Nonscience Majors (3-3) Schiff

Lecture (2 hours), laboratory (2 hours). BiSc 3: Principles of cell biology; structure and function of plants and animals; animal behavior. BiSc 4: Human anatomy and physiology; genetics; evolution; ecology. Prerequisite to BiSc 4: BiSc 3. Laboratory fee, \$30 per semester. (Academic year)

11-12 Introductory Biology for Science Majors (4-4) Hufford

Lecture (3 hours), laboratory (3 hours). BiSc 11: Investigation of principles of cell and molecular biology, cell physiology, inheritance, and evolution. BiSc 12: Investigation of principles of organismic biology, including diversity, form and function of plants and animals, and ecology. Designed to furnish a base for advanced studies in biology and related sciences. Prerequisite to BiSc 12: BiSc 11. Laboratory fee, \$40 per semester. (Academic year)

Second Group

- 103 **Marine Biology** (4)
Lecture (2 hours), laboratory and field (4 hours), plus some extended field trips. Study of relationships between organisms and physical, chemical, and biological factors of the marine environment. Consideration of the open ocean and coastal ecosystems and man's influence on them. Laboratory fee, \$40. (Spring)
Knowlton
- 107 **Field Biology** (4)
Field study of altitudinal zonation, species hybridization, territoriality, energy balance, time and energy budgeting, effects of exposure, and effects of introduction of alien species on flora and fauna of Great Smoky Mountains National Park. (Summer, odd years)
Merchant
- 108 **Organic Evolution** (3)
Synthetic theory of organic evolution, including population biology, speciation, adaptation, macroevolution, systematics, biogeography, and an overview of the course of evolution from prebiotic Earth to the emergence of man. (Fall)
Lipscomb
- 111 **Introductory Microbiology** (4)
Lecture (2 hours), laboratory (4 hours). Survey of the major groups of microorganisms with emphasis on structure, physiology, ecology, phylogenetic relationships, and economic importance. Prerequisite: one year of chemistry. Laboratory fee, \$40. (Fall)
Morris
- 113 **Protistology** (4)
Lecture (2 hours), laboratory (4 hours). Examination of the diversity, evolution, morphology, physiology, ecology, and reproduction of both photosynthetic and heterotrophic protists. Laboratory fee, \$40. (Spring, even years)
Hufford, Lipscomb
- 122 **Cell Biology** (3)
Structure and function of biological molecules, viruses, and cellular organelles. Prerequisite: one semester of organic chemistry. (Spring)
Morris
- 123 **Cell Biochemistry** (3)
Introduction to the metabolism of generalized cells of animals, plants, and microorganisms, including energetics, enzymes, respiration, biosyntheses, and regulatory mechanisms. Prerequisite: one semester of organic chemistry. (Fall)
Donaldson
- 124 **Cell Biochemistry Laboratory** (2)
Designed to illustrate some of the principles and techniques of biochemical experimentation. Prerequisite or concurrent registration: BiSc 123. Laboratory fee, \$40. (Fall)
Donaldson
- 127 **Genetics** (3)
Introduction to genetics, with emphasis on the integration of transmission of genetic traits and the chemical basis of gene action. Also includes cytogenetics, gene regulation, and examples of current applications of genetic technology. (Fall and spring)
Johnson
- 128 **Genetics Laboratory** (1)
Study of genetic principles using *Drosophila*, *E. coli*, and lambda phage. Prerequisite or concurrent registration: BiSc 127. Laboratory fee, \$40. (Fall and spring)
Johnson
- 138 **Advanced Genetics** (3)
Emphasis on the use of genetic analysis in solving modern biological problems. Prerequisite: introductory course in genetics. (Spring)
Merchant
- 140 **General Ecology** (4)
Lecture (3 hours), laboratory and field (3 hours). Introduction to the concepts of limiting factors, biogeochemical cycles, trophic levels, and energy transfer and their relationship to the structure and function of population, species, communities, and ecosystems. Laboratory fee, \$40. (Fall)
Merchant
- 144 **Aquatic Ecology** (4)
Lecture (3 hours), laboratory and field (3 hours). Principles applied to aquatic systems with special references to physiochemical properties, typical habitats and communities. Laboratory fee, \$40. (Spring, odd years)
Merchant

- 167 **Radiation Biology** (3) Schiff
Chemical, physical, and biological aspects of radiation; effects of radiation on cells and organisms, with emphasis on mammals. Recommended: cell biology and chemistry or physics. (Fall)
- 168 **Tropical Marine Biology** (4) Knowlton, Packer
Study of relationships between organisms and physical, chemical, and biological factors in a tropical marine-estuarine environment, conducted through ecological fieldwork in characteristic tropical ecosystems on the island of San Salvador, Bahamas. Laboratory investigations on organism physiology. Recommended: BiSc 103 and/or 163. Laboratory fee, \$40. (Summer, even years)
- 169 **Applied Marine Ecology** (4) Knowlton
Field study of interactions among biotic and abiotic components of temperate-boreal ecosystems, with emphasis on man's impact and utilization of coastal resources, conducted through surveys of ecosystems along the Maine coast and associated laboratory work, supplemented by lectures and discussion. Application of ecological and oceanographic research techniques to polluted as well as relatively unspoiled sites. Recommended: BiSc 103 and/or 140. Laboratory fee, \$65. (Summer, odd years)
- 171 **Undergraduate Research** (arr.) Staff
Admission by permission of the staff member concerned. May be repeated for credit. Prerequisite: Chem 50 or 152; 16 semester hours in biological science courses. Laboratory fee, \$20 per semester hour. (Fall and spring)
- 172 **Independent Study in Cell and Molecular Biology** (2) Donaldson, Morris
Prescribed reading list and consultations with staff advisor culminating in a written report and/or examination. Prerequisite: permission of instructor. (Fall and spring)
- 173 **Independent Study in Developmental Biology** (2) Brown, Burns
Prescribed reading list and consultations with staff advisor culminating in a written report and/or examination. Prerequisite: permission of instructor. (Fall and Spring)
- 174 **Independent Study in Organismic Biology** (2) Knowlton, Wagner, Wells
Prescribed reading list and consultations with staff advisor culminating in a written report and/or examination. Prerequisite: permission of instructor. (Fall and spring)
- 175 **Independent Study in Genetic and Evolutionary Biology** (2) Johnson, Lipscomb
Prescribed reading list and consultations with staff advisor culminating in a written report and/or examination. Prerequisite: permission of instructor. (Fall and spring)
- 176 **Independent Study in Environmental Biology** (2) Hufford, Merchant
Prescribed reading list and consultations with staff advisor culminating in a written report and/or examination. Prerequisite: permission of instructor. (Fall and spring)
- 185 **Human Nutrition** (3) Staff
Dietary requirements and their underlying physiological and biochemical bases; composition of natural and modified foodstuffs and additives; social and economic aspects of nutrition. (Spring)

Third Group

- 208 **Bioenergetics** (3 or 4) Merchant
Study of energy fixation and transfer in ecosystems and of their role in behavior, evolution, population dynamics, and species interactions. Students enrolling for 4 credits will devote one additional class meeting per week to an investigation of the nature and methods of science. Prerequisite: BiSc 140 or permission of the instructor. (Fall, odd years)
- 209 **Seminar: Principles and Mechanisms of Organic Evolution** (3) Lipscomb
Current problems and issues in evolution; speciation, macroevolution, biogeography, and topics of special interest to participants. Prerequisite: BiSc 108 or equivalent. (Fall)

- 210 Methods of Study of Evolution (4)**
Lecture (3 hours), laboratory and field (2 hours). Review of selected topics of current interest in the study of evolution, such as principles of phenetic and phylogenetic systematics, study of biogeography, and biochemical methods of examining evolution. Laboratory fee, \$40. Prerequisite: BiSc 108 or equivalent. (Fall, even years) Lipscomb
- 220 Seminar: Cell or Plant Biochemistry (3)**
Course content changes each session, alternating between selected topics in cell biochemistry and plant biochemistry. May be repeated for credit. Prerequisite: BiSc 122 or 123 or 135 or equivalent. (Spring) Donaldson
- 222 Current Topics in Cellular and Molecular Biology (1)**
Discussion of current publications in the areas of genetic engineering, organellar biogenesis, membrane function, plant gene structure and function, and transposable elements. May be repeated for credit provided that the topic differs. Staff
- 227 Seminar: Genetics (3)**
Review of selected topics in genetics, with emphasis on current literature; topics of special interest to participants encouraged. May be repeated for credit. Prerequisite: BiSc 127 or equivalent. (Fall, odd years) Johnson
- 228 Population Genetics (3)**
Origin, maintenance, and possible significance of genetic variation in populations. Selection, genetic drift, microevolution of species, and speciation are emphasized. Both theoretical and applied aspects of population genetics are discussed. Prerequisite: BiSc 127 or equivalent. (Fall, even years) Johnson
- 229 Cytogenetics (3)**
Behavior of chromosomes in mitosis and meiosis as a basis for the transmission of genes from one generation to the next through reproduction and the influence of cytogenetic processes on the mechanisms of evolution. Prerequisite: BiSc 122 or 123 and 127 or equivalent. (Fall) Staff
- 230 Human Genetics (3)**
Genetic mechanisms of transmission and expression of human traits, with emphasis on biochemical and cytogenetic aspects. Prerequisite: BiSc 127 or equivalent; previous course work in cell biology or cell biochemistry strongly recommended. (Spring) Staff
- 243 Seminar: Ecology (3)**
In-depth study of selected topics, including reports on original publications. May be repeated for credit. Prerequisite: BiSc 140 or equivalent. (Spring, even years) Merchant
- 248 Analysis of Development (3)**
Survey of current research in selected topics in experimental morphology, biochemical development, and developmental endocrinology. Emphasis on the principles and problems of pattern formation in animals. Prerequisite: BiSc 145 or equivalent. (Fall, even years) Brown
- 249 Seminar: Developmental Biology (3)**
Discussion and reports on recent research on the endocrinological, genetic, and biochemical aspects of animal development. Prerequisite: one course in developmental biology or cell biology. May be repeated for credit. (Spring) Brown
- 272 Scanning Electron Microscopy (3)**
Theory and practice of scanning and transmission electron microscopy, including specimen preparation, photography, and analysis of ultrastructural observations. Laboratory fee, \$65. (Spring) Atkins
- 274 Gene Regulation and Genetic Engineering (3)**
The control of gene expression as illustrated by several prokaryotic and eukaryotic model systems: discussions of recombinant DNA techniques. Prerequisite: BiSc 127. (Spring, odd years) Morris
- 275 Introduction to Recombinant DNA Techniques (3)**
Lecture, 1 hour; laboratory, 4 hours. Basic techniques of genetic manipulation: isolation of phage and plasmid DNA, cloning of genes, transformation of bacteria, mutagenesis of cloned genes, and other techniques. Prerequisite: BiSc 111 or 122. Morris

or 127 or equivalent and permission of instructor. Laboratory fee, \$40. (Fall, even years)

295 **Research** (arr.) Staff
Investigation of special problems. May be repeated for credit. (Fall and spring)

299-300 **Thesis Research** (3-3) Staff
(Fall and spring)

Fourth Group (Applicable to Biology, Botany, and Zoology)

398 **Advanced Reading and Research** (arr.) Staff
Limited to students preparing for the Doctor of Philosophy general examination. May be repeated for credit. (Fall and spring)

399 **Dissertation Research** (arr.) Staff
Limited to Doctor of Philosophy candidates. May be repeated for credit. (Fall and spring)

BOTANY

Second Group

105 **Field Botany** (4) Wells
Lecture (2 hours), laboratory and field (4 hours). Field and laboratory studies on local flora. Because of conflicting field-trip schedules, concurrent registration in BiSc 141 is not allowed. Laboratory fee, \$40. (Fall; may be repeated for credit during the summer)

109 **Developmental Plant Anatomy** (4) Hufford
Demonstration, observation, discussion (6 hours). Initiation and ontogeny of tissues and organs of vascular plants. Laboratory fee, \$40. (Spring, odd years)

110 **Plant Diversity** (4) Wagner
Demonstration, observation, discussion (6 hours). Evolutionary morphology and life histories as a basis for a phylogenetic study. Laboratory fee, \$20. (Spring, odd years)

125 **Flowering Plants** (4) Wells
Lecture (2 hours), laboratory and field (4 hours). Origin, evolutionary development, and principles of systematics of flowering plants. Laboratory fee, \$40. (Spring)

126 **Flora of the Mid-Atlantic States** (4) Wells
Field trips and laboratory study of the identification and ecology of vascular plants of the Coastal Plain, Piedmont, and mountains of Delaware, Maryland, Virginia, and West Virginia. Emphasis on family characteristics and recognition of dominant species in native habitats. Weekend trips required. Laboratory fee, \$40. (Summer)

135 **Plant Physiology** (4) Donaldson
Lecture (2 hours), laboratory (4 hours). Physiology of seed plants with emphasis on growth, development, tropisms, and reproduction. Prerequisite: Chem 11-12. Recommended: Chem 50 or 151-52. Laboratory fee, \$40. (Spring)

141 **Plant Ecology** (4) Wagner
Lecture (2 hours), laboratory (4 hours). Introduction to the dynamics of plant communities, populations, and individuals. Several Saturday and weekend field trips required. Because of conflicting field-trip schedules, concurrent registration in BiSc 105 is not allowed. Laboratory fee, \$40. (Fall)

Third Group

221 **Variation and Evolution in Plants** (3) Wells
Biosystematics of plants, covering the literature, concepts, and methodology of chemotaxonomy, breeding systems, cytogenetics, population genetics, and other studies of speciation, evolution, and classification. Prerequisite: BiSc 105 or 108 or 125 or 127. (Spring, even years)

- 238 **Seminar: Current Topics in Phycology** (3)
A review of current literature regarding selected aspects of algal systematics, morphology, physiology, or ecology. (Fall, even years)
- 239 **The Biology of Freshwater Diatoms** (4)
The systematics, morphology, physiology, and ecology of freshwater diatoms. Field and laboratory studies emphasize familiarity with local taxa. Laboratory fee, \$40. (Fall, odd years)
- 242 **Advanced Plant Ecology** (3)
Review of selected topics in adaptive plant strategies and physiological plant ecology. Prerequisite: BiSc 107 or 140 or 141. (Spring, odd years)
- 299-300 **Thesis Research** (3-3)
(Fall and spring)

ZOOLOGY

Second Group

- 101 **Invertebrate Zoology** (4)
Lecture (3 hours), laboratory (3 hours). General survey of invertebrate animals, including classification, morphology, physiology, embryology, and evolutionary relationships among phyla. Laboratory fee, \$40. (Fall)
- 104 **Comparative Vertebrate Anatomy** (4)
Lecture (2 hours), laboratory (4 hours). Evolution and comparative morphology of chordata, stressing recent forms. Laboratory fee, \$40. (Fall)
- 120 **Animal Behavior** (3)
An evolutionary approach to the study of animal behavior, emphasizing behavioral ecology and sociobiology. (Spring)
- 143 **Animal Ecology** (4)
Lecture (3 hours), laboratory and field (3 hours). Application of ecological principles to the understanding and manipulation of animal populations. Prerequisite: BiSc 140 or permission of instructor. Laboratory fee, \$40. (Spring, even years)
- 145 **Principles of Development** (4)
Lecture (2 hours), laboratory (4 hours). Development of animals, especially vertebrates, with reference to human embryos. Principles are illustrated by modern experimental studies of developmental problems. Laboratory analysis of organ system formation in the frog, chick, and pig. Laboratory fee, \$40. (Fall)
- 146 **Experimental Developmental Biology** (4)
Lecture (2 hours), laboratory (4 hours). Molecular and cellular biology of development through examination of the literature and complementary laboratory experiments. Laboratory exercises involve micromanipulative and biochemical operations on embryos fertilized in the lab. Prerequisite: BiSc 145 or equivalent, or permission of instructor. Recommended: a course in cell biology. Laboratory fee, \$40. (Spring)
- 148 **Histology** (4)
Lecture (2 hours), laboratory (4 hours). Introduction to microscopical anatomy of normal tissues and organs with emphasis on the interrelationship of structure and function. Laboratory fee, \$40. (Spring)
- 153 **Survey of Neurobiology** (4)
Lecture (3 hours), laboratory (2 hours). Study of the gross and cellular anatomy, physiology, and biochemistry of the nervous system; emphasis on mammals. Laboratory fee, \$40. (Fall)
- 155 **Parasitology** (4)
Lecture (2 hours), laboratory (4 hours). Introduction to animal parasitology; survey of parasitic types from protozoa through arthropods. Laboratory fee, \$40. (Fall)
- 157 **Comparative Endocrinology** (4)
Lecture (3 hours), laboratory (2 hours). Comparative study of basic principles of chemical integration, neuroendocrine relationships, and mechanisms of hor-

mone action. Prerequisite: BiSc 104, 165 and/or concurrent registration in Chem 151-52 or 50. Laboratory fee, \$40. (Fall)

- 163 **Human Physiology** (3) Packer
Introduction to the function of organ systems of the human body. Prerequisite: Chem 11-12. (Fall)

- 164 **Human Physiology Laboratory** (1) Staff
Study of basic physiology laboratory techniques; emphasis on the experimental study of homeostatic mechanisms in humans. Prerequisite or concurrent registration: BiSc 163. Laboratory fee, \$40. (Fall)

- 165 **Advanced Human Physiology** (4) Packer
Lecture (3 hours), laboratory (3 hours). Detailed study of selected organ systems, stressing chemical and physical bases. Prerequisite: BiSc 163 and 164, or equivalent. Prerequisite or concurrent registration: Chem 151-52 or 50. Laboratory fee, \$40. (Spring)

- 166 **Ornithology** (4) Wagner
An introduction to the study of birds from an ecological perspective. Includes visits to the collections and exhibits of the Smithsonian Institution's Museum of Natural History and National Zoological Park, several short field trips, two full-day Saturday trips for waterfowl and migrants, and one evening field trip for owls. Laboratory fee, \$30. (Spring, even years)

Third Group

- 204 **Seminar: Invertebrate Zoology** (3) Knowlton
Review of selected topics in physiology, development, and ecology of invertebrate animals, including reports on original publications. May be repeated for credit. Prerequisite: BiSc 101 or equivalent. (Fall)

- 211 **Symbiosis and Evolution** (3) Lipscomb
Study of the adaptations and evolution of parasites, including coevolution of parasites and hosts, competition for hosts, evolution of life cycles, and topics of special interest to participants. (Spring)

- 212 **Seminar in Comparative Reproductive Biology** (3) Burns
Review of selected topics in animal reproduction, including neuroendocrine regulation, reproductive cycles and behavior, and gonadal pathology. Prerequisite: BiSc 165 or equivalent. (Spring)

- 252 **Seminar: Neurobiology** (3) Atkins
Study of current publications in comparative neurobiology. May be repeated for credit with instructor's permission. (Spring, even years)

- 265 **Epithelial Transport** (3) Packer
A survey of cellular mechanisms of electrolyte, water, and metabolite transport, with emphasis on osmotic and acid-base balance. (Fall)

- 299-300 **Thesis Research** (3-3) Staff
(Fall and spring)

BUSINESS ADMINISTRATION

Professors F. Amling, P.D. Grub, N.M. Loeser, G.P. Lauter, A.I. El-Ansary, B. Burdetsky, S.F. Divita, R. Eldridge, R.F. Dyer, S.N. Sherman, F. Ghadar, Y.S. Park, H.G. Askari, H.J. Davis, T.M. Barnhill (Chair), A.E. Hammad (Visiting), W.E. Seale
Professorial Lecturers S.A. Seelig, D.A. Peterson, N. Bruck, J.H. Joseph, T.J. Curry, D. Pritchett
Associate Professors R.L. Holland, J.M. Sachlis, P.B. Malone III, D.J. Lenn, M.L. Liebreznz-Himes, L.M. Maddox, J.B. Thurman, J.H. Perry, N.G. Cohen, F. Robles, M.S. Katzman, J. Cook, P.S. Peyser, E.J. Englander, P.K. Bagchi
Associate Professorial Lecturers D.M. Devaney, R. Strand
Assistant Professors D.R. Kane, C.C. Shepherd, Jr., S.B. Jenkins, J.H. Beales III, M.S. Klock, S.G. Goldberg (Visiting), G.M. Jabbour, K. Visudtibhan, M.S. Wahab (Visiting), D.K. Davidson (Visiting), R.M. LeNoir

Assistant Professorial Lecturers W.N. LaForge, G.I. Friend, L.P. Katsanis, B.L. Sudwe
J.H. Lin, K.D. Peterson, M. Xia, P. Schultheiss, M.N. Richburg

See the School of Government and Business Administration for programs of study in business administration leading to the degrees of Bachelor of Business Administration, Master of Business Administration, and Doctor of Philosophy.

First Group

- 51 **Introduction to Business** (3) Davis, Thurman, Cook, LeNoir, Hamm
Structure, activities, and problems of business enterprise; its contribution to the individual and society; careers in business. Prerequisite: Sophomore standing (Fall and spring)

Second Group

- 101 **The Business Environment** (3) Lenn, Englander, Beale
Economic and legal environment of business enterprise; social and political influences; contemporary problems and issues. Restricted to seniors in the B.B.A. program. (Fall and spring)
- 104 **Business and the Legal System** (3) Kane, Shepherd
General overview of the legal system, role of law, and key legal concepts such as torts and contracts. Specific business applications—antitrust, employer obligations, organization of business enterprise, securities regulation, international law. (Fall and spring)
- 110 **Human Resources Management** (3) Burdetsky, Katzman, Malone
The labor force and labor markets. Industrial personnel and manpower programs organization and policy in personnel activities. (Fall and spring)
- 115 **Leadership in Human Resources** (3) Burdetsky
A study of the philosophy, principles, policies, and programs for effective personnel management and industrial relations as portrayed by case studies drawn from business and government. Prerequisite: BAD 110. (Fall)
- 117 **Collective Bargaining** (3) Burdetsky
American unionism and collective bargaining; economic, social, and public policy considerations. The negotiation and administration of collective bargaining agreements. Prerequisite: BAD 110. (Spring)
- 120 **Business Finance** (3) Jenkins, Jabbor
Analyzing capital requirements and methods of acquiring funds; planning efficient use of capital. Asset management, financial analysis, sources of funds, capital budgeting, and cost of capital. Prerequisite: Accy 51-52; Econ 1; Math 51-52; Stat 51. (Fall and spring)
- 123 **Investment and Portfolio Management** (3) Amling, Cohen
Theory and principles of security analysis and portfolio management, including analysis of the national economy, industry, company, and security markets. Risk-reward and computer-aided analysis. Prerequisite: BAD 120. (Fall and spring)
- 124 **Advanced Financial Management** (3) Barnhill
Analysis and readings investigating the theoretical relationships underlying financial management. Emphasis is placed upon cases for decisions involving long-term assets, financing, dividend policy, and other special topics in finance. Prerequisite: BAD 120. (Fall and spring)
- 130 **Working Capital Management** (3) Klock
The analysis of corporate short-term sources and uses of funds. Optimization techniques and case studies emphasized. Bank lending practices are evaluated within the working capital area. Prerequisite: BAD 120. (Spring)
- 132 **Real Estate Investment** (3) Seale
Principles of real estate investment, including valuation, appraisal, financing and development, in addition to a discussion of the mortgage market and institutions. Prerequisite: BAD 120. (Fall and spring)

- 133 **Fundamentals of Insurance and Risk Management** (3) Staff
Functions of insurance and risk management in business enterprise. (Spring)
- 135 **Capital Formation** (3) Jenkins
The process of capital formation in a free enterprise economy. Roles of business firms, financial intermediaries, money and capital market institutions, governmental regulatory agencies, fiscal and monetary policies. Prerequisite: BAd 120. (Fall and spring)
- 140 **Basic Marketing Management** (3) El-Ansary, Maddox, Hassan, Liebrez-Himes
Role of marketing in the socioeconomic system, consumer behavior analysis, impact of consumerism. Major decision areas of product planning, pricing, and distribution; tools of marketing research and demand analysis. Prerequisite: Econ 1-2, Stat 51. (Fall and spring)
- 142 **Consumer Behavior** (3) Dyer, Maddox, Hassan
An examination of the social, cultural, and psychological factors influencing the behavior of consumers. Topics include models of buyer behavior, consumption patterns, market segmentation research, attitude formation and change, brand loyalty, adoption of innovations, and store choice decisions. Marketing management and public policy implications of consumer research studies are stressed. Prerequisite: BAd 140. (Fall and spring)
- 143 **Marketing Research** (3) Dyer, Hassan
Basic methods and techniques of marketing research, problem definition, data collection, market survey and experimental design, data analysis and presentation. Special topics: questionnaire construction and data analysis with statistical software packages. Prerequisite: BAd 140, Stat 51, Mgt 58. (Fall and spring)
- 148 **Advertising** (3) Maddox, Dyer
Planning an advertising campaign. Consumer and market information, message appeals, media selection and scheduling, measuring effectiveness. Current criticism and regulation of the advertising function. Other major marketing communication tools, including personal selling and sales promotion. Prerequisite: BAd 140, 142. (Fall and spring)
- 149 **Advanced Advertising Campaigns** (3) Maddox
An application of the principles of marketing and advertising to a real-world situation in the development of an advertising campaign. Students work in an advertising agency atmosphere to perform such tasks as situation analysis, market segmentation, marketing research, media selection, and copywriting in the preparation of the advertising campaign. The culmination is the presentation of the campaign at a national competition sponsored by the American Advertising Federation. Five students from the class will be selected as presenters. Prerequisite: BAd 140, 142, 143, 148, or permission of instructor. (Spring)
- 150 **Salesmanship and Sales Management** (3) Divita
Development of personal selling and presentation skills; examination of types of selling situations. Organization of sales department, sales planning and forecasting, quotas, territories, performance standards, and analysis and control of distribution costs. Prerequisite: BAd 140. (Fall and spring)
- 152 **Retailing Management** (3) El-Ansary
A study of retailing management and strategy covering the current environment of retailing, retail market and financial analysis, store location and design, inventory management, and non-store and service retailing. Industry executive and student presentations and case analyses. Prerequisite: BAd 140. (Fall)
- 159 **Marketing: Strategic Planning** (3) El-Ansary, Dyer, Liebrez-Himes
A capstone seminar for marketing majors. Analytical integration of material covered in previous marketing courses. Marketing strategy literature, financial dimensions of marketing management, and comprehensive cases. Prerequisite: BAd 140, 142, 143, 150, and one additional marketing major field course. (Fall and spring)
- 160 **Introduction to International Business** (3) Robles, Grub, Visudtibhan
Social, cultural, political, legal, and technological environment of multinational business, emphasizing host-government/multinational corporation interface.

- Terminology, trade uses and practices, conditions essential for successful business operations, including export and import procedures, documentation, legal requirements; physical movement of goods in international business. (Fall and spring)
- 166 **International Marketing Management** (3) Lauter, Robb
 Scope of international markets; factors in assessing world marketing opportunities; international marketing product, pricing, distribution, and promotion program development in dynamic world markets and global environment. Prerequisite: BAd 140. (Fall and spring)
- 168 **Foreign Market Analysis** (3) Gru
 Patterns of world trade by country, commodities, and products; selected regional analyses, in-depth market studies. Prerequisite: BAd 160, 166. (Fall and spring)
- 171 **International Business Finance** (3) Eldridge, Ask
 Analysis of the international economic environment and its influence on corporate financial management of international operations. Prerequisite: BAd 120. (Fall and spring)
- 173 **International Banking** (3) Ghadar, Park, Waba
 Theory and practice of international banking; analysis of international commercial and investment banking from a management perspective; subjects include current international monetary and financial environment, money in capital markets, and topical problems of international banking from a management perspective. Prerequisite: BAd 171. (Fall and spring)
- 175 **International Monetary and Financial Issues** (3) Eldridge, Waba
 International macro- and micro-issues of money, banking, and finance. Interrelationship, from a management perspective, of basic forces shaping international and financial policy. Topics include international monetary systems, Eurocurrency markets, LDC debt crises, role of the International Monetary Fund and World Bank, and development banking issues. For advanced undergraduate students with a background in international business finance. Prerequisite: BAd 171 or permission of instructor. (Fall and spring)
- 180 **Materials and Purchasing Management** (3) Perry, Sherman, Bagchi
 Product and nonproduct purchases and materials cycle management. Requirements planning and make-or-buy decisions. Source identification, qualification and selection. Pricing, inventory, control systems, buying practices, purchase records. Policy and procedure development, ethical questions. Case analyses. (Fall)
- 181 **Management of Public Acquisitions** (3) Sherman
 Requirements planning, regulatory and policy environment, programming and budgeting factors, solicitation and award methods pertinent to public procurement, strategies, international purchasing, public grants, audit, and ethical considerations. (Fall)
- 182 **Physical Distribution Management** (3) Bagchi
 Physical distribution and warehousing systems of the United States. Economic role, modes of transport, international perspectives, private and public finance policy issues. Traffic management, carrier management. Regulatory change, energy, environmental and safety concerns. (Spring)
- 183 **Logistics Management** (3) Perry, Bagchi
 Physical distribution and customer service management. Storage, inventory financial and information implications. International distribution. Strategy formulation for the logistics system. Case analyses. (Fall)
- 184 **Contract Management** (3) Sherman
 The unique relationships created when independent organizations are joined by contract over long periods. Terms and conditions, specifications, information flow, progress monitoring. Direction and control problems, property issues, financial relationships, changes, schedule adherence, negotiation, termination and audit problems. (Spring)

- 188 **Managing Production/Operations** (3) Holland, Perry
Basic principles and methods of manufacturing production. Manufacturing facilities, plant, and equipment. Illustrations selected from various process and fabrication industries. Prerequisite: Math 51, 52; Stat 51 or equivalent; BAd 110, 191. Restricted to seniors in the B.B.A. program. (Fall and spring)
- 190 **Special Topics in Business Administration** (3) Staff
Experimental offering; new course topics and teaching methods.
- 191 **Fundamentals of Management** (3) Davis, Thurman, Cook, LeNoir
Planning, organizing, directing, coordinating, and controlling activities of the administrative unit; evolution of management thinking. (Fall and spring)
- 192 **Small-Business Management** (3) Holland
Theory and practice of small-business management. Focus on effective management of small firms, essentials of planning and organizing the firm, financial and administrative controls, evaluation of alternative business forms, and comparison of purchase of an ongoing firm, franchising, and new business start-ups. The role of small business in American society; historical perspective of entrepreneurship. Prerequisite: BAd 191. (Fall)
- 197 **Strategy Formulation and Implementation** (3) Thurman, Cook, Davis, LeNoir
An integrative capstone course covering strategy formulation and implementation. The course develops the student's skills in conducting situation audits, diagnosing organizational problems, formulating and selecting strategic alternatives, and recognizing problems inherent in strategy implementation. Restricted to seniors in the B.B.A. program. Prerequisite: BAd 110, 120, 140, 191, and 188. May be taken concurrently with BAd 188. (Fall and spring)
- 199 **Individual Research** (arr.)
Assigned topics. Admission by prior permission of advisor. May be repeated once for credit. (Fall and spring)

Third Group

- 201 **Business and Public Policy** (3) Lenn, Englander, Kane, Shepherd
This course is a First-Level requirement for M.B.A. students; it may not be used to satisfy a Second-Level requirement. Contemporary social forces acting on business management; business responsibility, ethics. The American legal system, federal regulation, constitutional and administrative law. Court decisions relating to business. (Fall, spring, and summer)
- 202 **Business-Government Relations** (3) Lenn, Englander, Shepherd
Economic, political, and philosophical foundations of the business-government relationship in theory and practice. Antitrust, public utility, and other regulation, consumer and environmental protection, conditions of employment; effective business response—present status and future prospects. Prerequisite: BAd 201 or equivalent. (Fall and spring)
- 203 **Federal Government Regulation of Society** (3) Tolchin
Same as PAd 216.
- 204 **Regulation of Business: Administrative Law** (3) Kane
Principles of federal regulation of business through administrative bodies. Analysis of sources and limits of the powers and prerogatives of administrative bodies in adjudicative, executive, and rule-making functions. Theoretical and practical aspects of regulations; other topics. Prerequisite: BAd 201, 202 or equivalent. (Fall)
- 205 **Business Representation and Lobbying** (3) Joseph
Strategies, tactics, and techniques used by business in representing itself to the legislative and executive branches and regulatory agencies of the federal government. Legal and practical constraints. Ethical considerations. (Fall)
- 206 **Applied Microeconomics** (3) Beales
Applications of economic theory to public and private decisions affected by the economic and general business environment. Demand, production, costs, profits, investments, inventory, market structure. Prerequisite: Econ 217 and Mgt 270 or equivalents. (Spring)

- 208 **Macroeconomic Policy and Business** (3)
Interpretation of economic conditions in the short and long run; theory and practice of monetary and fiscal policy; applications of business conditions analysis to business planning, management, and policy. Prerequisite: Econ 218 and Mgt 270 or equivalents. (Fall)
- 209 **Seminar: Business Economics and Public Policy** (3) Lenn, Engle
Analysis and discussion of selected issues by students and representatives of government and business. Prerequisite: BAd 201, 202, or equivalent. (Spring)
- 210 **Human Resources Management** (3) Loeser, Malen
Survey of personnel management practices and procedures, including labor management relations. Same as PAd 231. (Fall and spring)
- 211 **Seminar: Human Resources Management** (3) Burdetsky, Katz
Industrial personnel and manpower management, research in advanced problems. (Spring)
- 212 **The Human Resources Manager** (3)
The personnel manager and his or her place in the organization, relation to other executives, policy role, and relations with chief executive. Problems of the senior personnel executive. Prerequisite: BAd 210 or permission of instructor. Same as PAd 232. (Summer)
- 215 **Leadership and Executive Development** (3)
Theories of managerial leadership; issues and problems associated with leadership in large organizations and at higher management levels; executive selection and development. Prerequisite: Mgt 205 or permission of instructor. (Fall and spring)
- 217 **Unionism and Collective Bargaining** (3)
The American labor movement. Collective bargaining and the conduct of labor relations under collective bargaining agreements. (Fall)
- 218 **Current Issues in Unionism, Collective Bargaining, and Labor Relations** (3)
Current problems and issues. (Spring)
- 220 **Business Financial Management** (3) Klock, Jabbo
This course is a First-Level requirement for M.B.A. students; it may not be used to satisfy a Second-Level requirement. Theory, policy, and practice in financial management; financial analysis, sources of funds, investing, capital planning, and budgeting. Prerequisite: Accy 201, Econ 217, Mgt 218 and 270 or equivalents. (Fall and spring)
- 221 **Financial Decision Making** (3) Sachlis, Pappas
Theory and practice of business finance, emphasizing the impacts of long- and short-term uses and sources of funds on the firm's value. Prerequisite: BAd 120 or 220. (Fall and spring)
- 222 **Capital Formation** (3) Jenkins, Sachlis
Determinants of saving and investment and resultant funds flow are evaluated. Special emphasis on the level and risk structure and term structure of interest rates. The role and management of financial institutions is stressed. Prerequisite: BAd 120 or 220. (Fall and spring)
- 223 **Investment Analysis and Portfolio Management** (3) Amling, Cohen
Risk-reward analysis of security investments, including analysis of national economy, industry, company, and market; introduction to portfolio management with emphasis on theory and computer methods. Prerequisite: BAd 120 or 220. (Fall and spring)
- 224 **Financial Management** (3) Cohen, Barnhill
Cases in financial management; planning financial structure, obtaining and managing capital, issuing and placing securities, administering income, security arrangements. Prerequisite: BAd 221. (Fall and spring)
- 225 **Economic, Social, and Legal Aspects of Urban Development** (3) Puller
Same as U&RP 259. Examination of the forces that shape urban development; introduction to market analysis methods and techniques to evaluate projects; feasibility; study of the institutional and legal framework within which urban development occurs.

- development occurs and that influences controls, land value, and development potential; and analysis of roles and responsibilities of the public and private sector in the urban development process. Prerequisite: Completion of Common Body of Knowledge courses. (Fall)
- 226 **Financing Urban Development** (3) Staff
Principles of development finance: evaluating and measuring the investment attractiveness of real estate projects; obtaining, differentiating, and hedging sources of real estate funding; and appraising property. Although emphasis is on the private sector, the importance of financial conditions of and incentives provided by local, state, and federal governments is considered. Prerequisite: BAd 225 or permission of instructor. (Fall and spring)
- 227 **Problems in Urban Development** (3) Staff
Applications of market analysis, valuation, and financial techniques to the development process. Prerequisite: BAd 225/U&RP 259 and BAd 226; must be taken concurrently with BAd 228/U&RP 264. (Spring)
- 228 **Urban Development Planning and Design** (3) Greene
Same as U&RP 264. Application of planning/design principles and techniques in a studio/laboratory environment. Field reconnaissance and graphic techniques applied to projects in site selection, site analysis, concept formulation, and site planning in an urban context. Public and private sector issues are addressed in the preparation of a project development proposal. Prerequisite: BAd 225/U&RP 259 and BAd 226; must be taken concurrently with BAd 227. (Spring)
- 231 **Seminar: Investment and Portfolio Management** (3) Amling
Portfolio management theory, application, and computer modeling. Independent research on investment analysis and portfolio management with emphasis on theory, cases, and computer applications. Prerequisite: BAd 223. (Fall)
- 232 **Real Estate Finance** (3) Seelig
Investment in and financing of real estate from the points of view of the developer, investor, borrower, and lender. Emphasizes vocabulary and identification of significant issues. Develops key analytical tools. Prerequisite: BAd 220. (Spring)
- 235 **Futures Markets: Trading and Hedging** (3) Barnhill, Seale
Organization and regulation of futures markets. Computer assistance of large data bases. Alternative strategies for profitable speculative trading of futures contracts for possible hedging uses. High risk-high return investment alternatives. The use of futures markets to manage risks caused by fluctuating interest rates, exchange rates, or commodity prices. Prerequisite: Introductory courses in economics, statistics, computer usage, and financial management. (Fall and spring)
- 239 **Financial Theory** (3) Peyser, Sachlis
In-depth theoretical analysis of business financial topics, including asset management, financial structure, dividend policy, and the capital asset pricing framework. Prerequisite: BAd 221, 223. Offered every third semester.
- 240 **Marketing Management** (3) Dyer, Divita, El-Ansary, Liebrezn-Himes
This course is a First-Level requirement for M.B.A. students; it may not be used to satisfy a Second-Level requirement. Emphasis on the marketing process from the viewpoint of the firm. Market analysis, product planning, channels of distribution, pricing, and promotional decision making; developing an integrated marketing plan. Prerequisite: Econ 217-18. (Fall and spring)
- 241 **Advanced Marketing Management** (3) Divita, El-Ansary, Liebrezn-Himes
For M.B.A. students in concentrations other than marketing. Case analysis of complex marketing problems. Current developments in marketing practice. Relationship of marketing to environmental forces and other business functions. Prerequisite: BAd 240. (Fall and spring)
- 242 **Buyer Behavior** (3) Dyer, Hassan, Maddox
The buyer decision process model as a framework for analysis of how and why products and services are purchased and used. Behavioral sciences applied to individual, family, and organizational decision processes. The impact of con-

- sumer decisions on the marketing strategies of organizations. Special marketing applications in high-tech and service industries on a global scale. Prerequisite: BAd 240 or permission of instructor. (Fall and summer)
- 243 Marketing Research (3)** Dyer, Hassan
The marketing research process: designing, conducting, and using market research studies. Survey and experimental designs. Data analysis with statistical software packages. Prerequisite: BAd 240, Mgt 218 and 270, or equivalent. (Fall)
- 246 Marketing of Services (3)** Liebreinz-Himes
Management of the activities involved in marketing new and existing services. The innovation system (behavioral and organizational) of service product decisions, product planning processes, marketing auditing, services and the law, and new service trends. Marketing of intangibles and services is highlighted. Prerequisite: BAd 240. (Spring)
- 248 Advertising and Sales Promotion (3)** Maddox
Examination of advertising and sales promotion from a systems perspective supported by analytical methods and concepts regarding consumer attitudes and behavior. Topics: social context of promotion, role of communication in marketing, behavioral concepts and communications research, message design, economic and financial criteria, development of a promotion program. Prerequisite: BAd 240. (Spring)
- 250 Selling and Sales Management (3)** Divita
The sales function from the viewpoints of the sales person and the sales manager. The first part of the course will focus on the selling task, with attention to ethical and legal issues, the selling process, human behavior and selling, account management and internal selling, negotiation and non-selling aspects of sales work. The second part of the course will focus on the managerial issues associated with sales management, with attention to demand analysis and resource allocation, financial planning, quota setting and control, motivation, coaching and incentives, sales administration, and analysis of sales performance. Prerequisite: BAd 240. (Fall and spring)
- 253 Marketing Channels (3)** El-Ansary
Marketing channels and vertical marketing systems from a managerial viewpoint. Marketing channels viewed as super-organizations requiring planning, organization, coordination, and control. These tasks require an understanding of the channel's task environment, manufacturing, wholesaling, retailing, and physical distribution institutions. Focus on system performance and management of interorganizational relationships among channel institutions. Prerequisite: BAd 240. (Fall)
- 257 Marketing and Public Policy (3)** Divita, Gillis
Examination of principal areas of public policy formulation affecting marketing practice. Topics: advertising, warranties, product safety, health issues, consumer information systems, informal and formal redress mechanisms, business responsibilities. Government, business, and advocate viewpoints presented. Prerequisite: BAd 240 or permission of instructor. (Fall)
- 259 Marketing Strategy (3)** Divita, El-Ansary
Analysis of complex marketing problems involving policy and operational decisions; emphasis on creative marketing strategy. Prerequisite: completion of at least three Second-Level marketing courses or permission of instructor. (Spring)
- 261 Multinational Corporations in the World Economy (3)** Ghadar, Grub, Visudtibhan
Business in the world economy; multinational corporations as economic, political, and social institutions; ownership and growth strategies, relationships to other nations; national and international controls; future of the multinational corporation. (Fall and spring)

- 262 **Seminar: International Trade** (3) Eldridge
Classical and modern concepts of international trade theory, instruments and institutions of trade policy, barriers to trade, preferential treatment and trading blocs, trends and issues. (Fall and spring)
- 263 **Legal Aspects of International and Multinational Business** (3) Peterson
Legal environment of international and multinational business including legal systems, antitrust laws, regulation of direct investment, international arbitration and expropriation; topics of current interest. (Fall and spring)
- 266 **International Marketing** (3) Lauter, Robles
Organizational structures. Analysis of international markets. Market-entry strategies and product policies. Special issues. Channels of distribution, promotional and price policies. Prerequisite: BAd 240. (Fall and spring)
- 267 **Regional International Marketing Systems** (3) Lauter
Discussion of the political, economic, legal, and social characteristics of Europe, Japan, Latin America, Asia, the Middle East, Eastern Europe, and China, as they affect the marketing of goods and services in these regions. Identification of appropriate market-entry strategies. (Fall and spring)
- 271 **International Business Finance** (3) Ghadar, Park, Askari
Analysis of problems in international business finance. Impact of the evolving international payments system on business. Prerequisite: BAd 120 or 220. (Fall and spring)
- 273 **Seminar: International Banking** (3) Park, Ghadar
International financial intermediation and international banking. Functioning of international financial markets, public policy issues in international banking, regulation of multicountry banking institutions, and the effect of international banks on national monetary policies. Prerequisite: BAd 271. (Fall and spring)
- 275 **External Development Financing** (3) Ghadar, Park
Problems and alternative solutions for required capital formation and the financing of payment imbalances through external sources. Institutions and instruments for financing national development. Emphasis on planning as affected by energy policies, inflation, recession, changes in the international monetary system, and revised attitudes among developed countries regarding bilateral and multilateral assistance. Prerequisite: BAd 271 or permission of instructor. (Fall and spring)
- 276 **Seminar: International Financial Markets** (3) Park, Askari, Ghadar
Theory and practice of international financial markets. Operation and structure of the Eurocurrency market, such as interbank operations, Eurodollar CDs, and floating-rate Eurocredits. Control of the Eurocurrency market and the role of other financial centers. Study of Eurobond and floating-rate note markets as well as major foreign bond markets. Prerequisite: BAd 271 or 273. (Fall and spring)
- 277 **International Portfolio Selection and Management** (3) Sudweeks
Theoretical knowledge and practical skills necessary for the efficient management of international financial asset portfolios. Numeraire currency, exchange rates, international taxation, international portfolio optimization, international financial assets and markets, performance measures and applications. Emphasis on computer-based analysis. Prerequisite: Econ 217-18; Accy 201; Mgt 205, 218, 270; BAd 201, 220, 223, 240. (Spring)
- 278 **International Business Negotiations** (3) Ghadar
This course focuses on the essential characteristics of International Business Negotiations (IBN) with particular emphasis on the process and changes in that process over time. Formulation of concepts and preliminary frameworks to assist in understanding IBN; development of systematic approaches to planning for and conducting IBN. The course assists in developing skills of the participants in the art of IBN while integrating other functional and international aspects in the broader environmental framework. Prerequisite: BAd 261. (Fall and spring)
- 280 **Purchasing and Materials Management** (3) Perry, Sherman, Bagchi
Industrial purchasing and materials management principles and practices. Organization and functions in materials management. Determination of require-

- ments, source selection, buying practices, policies, and ethics. Same as PAd 280 (Fall and spring)
- 281 **Procurement and Contracting** (3) Sherman
Principles and concepts essential to effecting large procurement programs. Planning, sourcing, and contractual design for diverse acquisitions. Emphasis on federal government policy with comparison of buying at other government levels and the private sector. Same as PAd 281. (Fall and spring)
- 282 **Government Contract Administration** (3) Sherman
Surveillance and management of contract performance. Measurement of progress; specification interpretation; quality assurance; changes, negotiation, adjustment; financial considerations; property; terminations; regulatory and policy concerns. Same as PAd 282. (Spring)
- 283 **Pricing and Negotiation** (3) Sherman
Scope and objectives of negotiated procurement; preparation, conduct, and recording of negotiations; analysis of cost, price, profit, investment, and risk; cost principles; incentives; relationship of contract type to work requirements; techniques of negotiation. Same as PAd 283. (Fall)
- 285 **Systems Procurement and Project Management** (3) Perry, Sherman
Major systems acquisition: needs, objectives, and organizational relationships. Design, establishment, and execution of project management plans and procurement processes. Analysis of cases in public- and private-sector contractual assistance activities. Same as PAd 285. (Fall and spring)
- 286 **Physical Distribution Management** (3) Bago
Transportation and communications services management, including optimization of cost and service in terms of full coordination of demand and supply patterns. Alternatives available to the physical distribution manager, given the economic characteristics, competitive conditions, and regulatory environment of the several transportation modes. Model location theory and distribution network work planning and design. (Spring)
- 287 **Manufacturing Control Systems** (3) Perry
Inventory and production control concepts, techniques, and strategies for effective integration with basic finance, marketing, and manufacturing objectives. Forecasting methods, material requirements planning systems, distribution requirements planning techniques, and classical reorder-point inventory models. Mechanized inventory-production control systems are examined to highlight design issues in systems development and execution. (Fall)
- 288 **Logistics Management** (3) Perry
Management of work in production, commercial, service, and public organizations. Analytical tools for planning and establishing operating systems and their operation, control, and modification. Examination of processes, products, services, equipment, and facilities. Relationships of human systems and operating systems. (Fall)
- 289 **Manufacturing Strategy** (3) Perry
Basic production methods and techniques that influence formulation of a firm's strategic policy for today's competitive environment. Traditional as well as new and improved systems for controlling capacity and output. Productivity analysis, cost control, materials planning, and other topics are examined in the development of a production strategy to ensure that the production function contributes to the overall profit of a firm in an optimal manner. (Spring)
- 290 **Special Topics in Business Administration** (3) Su
Experimental offering; new course topics and teaching methods. May be repeated once for credit.
- 291 **Ethics and Business** (3) Griffith, Lee
Concepts and strategies of ethical analysis applied to specific business problems, e.g., risk management, plant relocation, preferential hiring, political advertising, development of theory of corporate social responsibility. Same as Phil 291 (Spring)

- 292 **New Venture Initiation** (3) Holland
Theory and practice of entrepreneurship and small business management. Historical perspective of entrepreneurship in the U.S. and abroad, essentials of planning a new business venture, sources of financing, evaluation of alternative new business ventures, and analysis of business functions needed to get started. Ongoing firms, franchising options, and new business start-ups. Prerequisite: Mgt 218, 270; Econ 217-18; BAd 201, 220, 240; Accy 201. (Fall and spring)
- 293 **American Business History** (3) Becker
The history of American business institutions in manufacturing, distribution, transportation, and finance. Particular attention will be given to the period since industrialization, with consideration of business institutions in their economic, legal, governmental, and social contexts. Same as Hist 220. (Fall)
- 295 **Research Methods** (3) Davis
Theory and practice in research methodology. Data sources and gathering, research models and designs, analysis and testing, controls, interpretation and presentation of findings. Use of computer library programs and preparation of a formal business report. (Fall)
- 297 **Strategy Formulation and Implementation** (3) Davis, Thurman, Cook, LeNoir
An integrative approach to strategic management, stressing the general manager's perspective. Strategy formulation, implementation of strategy and policy, and evaluation and control of strategy in various types of organizations. Prerequisite: M.B.A. degree status. (Fall and spring)
- 298 **Directed Readings and Research in Business Administration** (3) Staff
Supervised readings or research in selected fields within business administration. Admission by prior permission of instructor. May be repeated once for credit. (Fall and spring)
- 299 **Thesis Seminar** (3) Staff
Examination of thesis standards, research philosophy, and methodology. (Fall and spring)
- 300 **Thesis Research** (3) Staff
(Fall and spring)

Fourth Group

Fourth-group courses are primarily for doctoral students. They are offered as the demand requires. They are open to selected master's students upon petition approved by the Associate Dean.

- 311 **Seminar: Public-Private Sector Institutions and Relationships** (3) Staff
An analysis and critique of alternative theoretical frameworks for describing, understanding, and predicting the nature, values, and actions of American public and private institutions. Problems, potentials, and alternatives for structuring public and private institutional arrangements to meet the needs of society. Prerequisite: doctoral degree candidate status. (Fall and spring)
- 321 **Seminar: Financial Markets** (3) Sachlis, Peyser
Research seminar in corporate financial theory, investment portfolio theory, and capital market theory. May be repeated once for credit. Prerequisite: BAd 222, 231, 239. Offered every third semester.
- 341 **Seminar: Marketing** (3) El-Ansary, Dyer, Leibrenz-Himes
Examination of major theoretical developments in marketing. Topics include advances in marketing theory, services marketing, and marketing for nonprofit organizations. Emphasis on emerging concepts in consumer behavior, channels, marketing communication, and marketing information systems. Offered every third semester.
- 361 **Colloquium on International Business** (3) Eldridge, Ghadar
Examination of selected topics in international business, with emphasis on major new theoretical and empirical developments. (Fall)
- 381 **Seminar: Materials and Operations Management** (3) Perry, Sherman
Recent developments in manufacturing production and materials management; impact of technological economic and social change; significant related trends.

- Private- and public-sector policy implications. New and emerging analysis techniques. Prerequisite: BAd 280, 281, or permission of instructor.
- 391 **Seminar: Business Management** (3)
Examination of major current issues, both theoretical and empirical, affecting development of the business enterprise. Topics to be announced. Emphasis on policy and strategic issues affecting the total enterprise. (Offered as the demand warrants)
- 398 **Advanced Reading and Research** (arr.)
Limited to doctoral candidates preparing for the general examination. May be repeated for credit.
- 399 **Dissertation Research** (arr.)
Limited to doctoral candidates. May be repeated for credit.

CHEMICAL TOXICOLOGY

See Forensic Sciences and Chemistry.

CHEMISTRY

Professors T.P. Perros, W.E. Schmidt, D.G. White, J.B. Levy, N. Filipescu, E.A. Caress, D.A. Rowley, D. Ramaker (Chair), M. King, A. Montaser
Associate Professors K.C. Adiga (Research), H. Sambe (Research), J.H. Miller
Associate Professorial Lecturer S.M. Barkin
Assistant Professors D. DiLella, D.L. Sedney (Visiting)
Lecturers A. Herner, J. Dinnin, J. Hilderbrandt

Bachelor of Arts or Bachelor of Science with a major in chemistry (departmental)—The department offers two undergraduate majors, both designed to give students a broad background in the basic divisions of chemistry: analytical, inorganic, organic, and physical. Major I, while providing considerable concentration in chemistry, permits a wide selection of electives. It thus should meet the needs of students preparing to enter medicine, dentistry, or related fields. Major II is intended primarily for students preparing for graduate study in chemistry or those planning to enter the chemical profession and wishing to be certified by the American Chemical Society as having met the minimum requirements for professional training. One foreign language (Russian, Japanese, German, or French) is recommended for students planning to do graduate work in chemistry.

The following requirements must be fulfilled:

1. Students in either Major I or Major II must meet the general requirements stated under Columbian College of Arts and Sciences.
2. Prerequisite courses for the Bachelor of Arts degree for Major I and Major II—Chem 11-12 and 22 and 23, or 15-16; required courses in related fields—Math 31, Phys 21-22. Bachelor of Science degree candidates must also take BiSc 11-12 or a year of other approved course work in the natural sciences or mathematics.
3. (a) Required courses for Major I—Chem 111-12, 113, 122, 134 or 235, 141, 151-54 and 153-54.
(b) Required courses for Major II—Chem 111-12, 113, 122, 123, 141-42, 151-54, 153-54, 235; one approved advanced course in chemistry or a related field. Required courses in related fields for Major II—Math 32 and a course in a structured computer programming language, such as Stat 129 or CSci 51.

An entering student who is considering chemistry as a major is strongly encouraged to consult the Chemistry Department advisor regarding the program of study for the first two years. In general, the following sequence of courses is recommended for those students considering Major II: first year—Chem 11-12, Math 31 and 32 (or 30 and 31 if necessary), English composition, electives; second year—Chem 22 and 23, 151-52, and 153-54, Phys 21-22, Math 32 if not taken in first year, electives; third year—Chem 111-12, 113, 141, computer programming, electives; fourth year—Chem 122, 123, 235, 142, one approved advanced course in chemistry or a related field, electives. Major I students should follow the sequence in general and are urged to consult with the chemistry and premedical advisors concerning their academic programs.

Special Honors—In addition to meeting the general requirements stated under Regulations, a candidate for graduation with Special Honors in chemistry must maintain a cumulative 3.0 quality-point index in chemistry courses and take Chem 195 for at least 3 credits over two semesters.

Bachelor of Science/Master of Science in the field of chemical toxicology—This is a five-year program leading to the B.S. in the field of chemistry and M.S. in the field of chemical toxicology. The first three years of the program consist of undergraduate course work. Application for admission to the M.S. program in chemical toxicology will be made to the Graduate School of Arts and Sciences during the second semester of the third year; for admission to the graduate portion of the program, acceptance must be obtained prior to the start of the fourth year of the program. If acceptance into the M.S. program in chemical toxicology is not desired or not obtained, the requirements for the B.S./B.A. in chemistry, either Major I or II, may be fulfilled by the successful completion of appropriate courses during the fourth year of study. If acceptance into the M.S. program in chemical toxicology is obtained, the B.S. in chemistry will be awarded after the successful completion of the fourth year of the program.

The following requirements must be fulfilled:

1. Students must meet the general requirements stated under Columbian College of Arts and Sciences and the Graduate School of Arts and Sciences.
2. Course Requirements: Chem 11-12, 22 and 23, 111-12, 113, 122, 123, 141-42, 151-52, 153-54, 235; Phys 21-22; BiSc 11-12; Math 31, 32; Stat 127 and a course in a structured computer programming language; Phar 203; Bioc 221-22; Phyl 191; ForS 240, 245, and 242 or 270; either ForS or Chem 299-300; and two courses chosen from ForS 246, 248, 249, 269.

Minor in Chemistry—Required: Chem 11-12, 22 and 23, 50, and 110 or 111; Chem 151-52 and 153-54 may be substituted for Chem 50.

Master of Science in the field of chemistry—Prerequisite: a bachelor's degree with a major in chemistry from this University, or an equivalent degree.

Required: the general requirements stated under the Graduate School of Arts and Sciences. Course work must include Chem 213 and 221 and at least two of the following: Chem 207, 236, and 251. Proficiency in computer programming must be demonstrated. Candidates are required to pass a Master's Comprehensive Examination.

Thesis option—30 semester hours of approved courses are required, including Chem 299-300, Thesis Research, which may be in analytical, inorganic, organic, or physical chemistry.

Nonthesis option—36 semester hours of approved courses are required, including Chem 298. Up to 9 semester hours in other departments relevant to the student's area of interest may be included in the program, subject to the approval of the Department of Chemistry. Students who are or will be employed in organizations dealing with science, technology, and public policy programs may wish to select from the following courses: PSc 203, 217, 222, 223, 252; PAd 260, 261; Mgt 233, 234.

Master of Science in the field of geochemistry (an interdepartmental degree offered by the Departments of Chemistry and Geology)—Prerequisite: a bachelor's degree with a major in chemistry or geology from this University, or an equivalent degree.

Required: the general requirements stated under the Graduate School of Arts and Sciences, including Chem 111-12, 213 or other upper-level chemistry course approved by the advisor, and 299-300, and Geol 141, 241 or 243, and 249. The Master's Comprehensive Examination must be taken before registration for the second half of the thesis work. Stat 129 or an equivalent course approved by the Department of Chemistry or Geology must be passed.

Doctor of Philosophy in the field of chemistry—Required: the general requirements stated under the Graduate School of Arts and Sciences. Chem 207, 213, 221, 235, 251, and 350 are normally required of the doctoral student, in addition to other courses and requirements as determined by consultation with the departmental program committee. Proficiency in computer programming must be demonstrated. Cumulative examinations replace the General Examination requirement.

Research fields: analytical and molecular spectroscopy, chemical instrumentation, combustion chemistry, chemical toxicology, fluorine chemistry, forensic chemistry, geochemistry, organic synthesis/natural products, photochemistry, structure/reactivity studies, surface science, theoretical chemistry, trace analysis, transition metal complexes.

Ph.D. students in chemistry may substitute up to 12 hours of Dissertation Research (Chem 399) in the form of course work jointly approved by the Chemistry Department and the Science, Technology, and Public Policy program. The purpose of this option is to provide a useful background for chemistry doctoral students who may be employed in government agencies dealing with science, technology, and public policy programs. The 12 hours may be selected from the following courses: PSc 203, 217, 222, 223, 252; PAd 266, 261; Mgt 233, 234.

Doctor of Philosophy in the field of geochemistry (an interdepartmental degree offered by the Departments of Chemistry and Geology)—Required: the general requirements stated under the Graduate School of Arts and Sciences, including Stat 129 and either Stat 118 and 119, or 91, and the satisfactory completion of the General Examinations in four fields including chemistry and geochemistry.

Graduate Placement Examinations: All entering students in the master's and doctoral programs in the field of chemistry are required to take the American Chemical Society Graduate Level Placement Examinations, given by the Department of Chemistry, prior to registration in the Graduate School of Arts and Sciences. The four placement examinations (in the disciplines of analytical, organic, inorganic, and physical chemistry) are of the multiple-choice type. These tests are designed to cover the subject matter in the disciplines generally taught in modern undergraduate programs preparatory for graduate work in chemistry, and the results are used by the department to advise the individual student in planning a program of courses appropriate to the student's background.

All graduate students are required to participate in the seminar and colloquium programs.

Registration: Before completing registration each student must obtain from the representative of the department an assignment to lecture, recitation, and laboratory sections. Upon consultation with course instructors, specific prerequisites may be waived for the particular courses.

PHYSICAL SCIENCE

First Group

3-4 Contemporary Science for Nonscience Majors (3-3)

Lecture (2 hours), laboratory (3 hours). Contemporary topics in physical, biological, and medical science. Chem 3 is not prerequisite to Chem 4. Laboratory fee, \$20 per semester. (Academic year)

CHEMISTRY

First Group

11-12 General Chemistry (4-4)

Lecture (3 hours), laboratory (3 hours), recitation (1 hour). Atomic structure and properties; stoichiometry; gas, liquid, and solid state; chemical bonding; solutions; chemical kinetics and equilibria; thermodynamics; acids and bases; electrochemistry; introduction to descriptive chemistry. Prerequisite to Chem 13: one year of high school algebra. Prerequisite to Chem 12: Chem 11. Laboratory fee, \$35 per semester. (Chem 11 and 12—fall and spring)

13 General Chemistry (4)

For engineering and applied science students only. Lecture (3 hours), laboratory (3 hours), recitation (1 hour). Stoichiometry; atomic structure and chemical bonding; gases, liquids, and solids; oxidation-reduction and acid-base reactions.

tions; thermochemistry; chemical equilibrium; electrochemistry. Prerequisite or concurrent registration: Math 31, Phys 14. Laboratory fee, \$35. After completion of Chem 13, Chem 11-12 may not be taken for credit. (Fall and spring)

15-16 **Intensive General and Analytical Chemistry (4-4)** Staff
(Honors Course)

Chem 15: Lecture (3 hours), laboratory (3 hours), recitation (1 hour). Chem 16: Lecture (2 hours), laboratory (6 hours), recitation (1 hour). Equivalent to Chem 11-12 and 22, 23, but with selected topics studied in depth. Prerequisite to Chem 15: high school physics and chemistry. Prerequisite to Chem 16: Chem 15. Admission by placement test prior to registration or on basis of College Board Advanced Placement Examination. Laboratory fee, \$35 per semester.

(Academic year)

22 **Introductory Quantitative Analysis (3)** Schmidt
Theory and practice of quantitative analysis by modern methods; evaluation of analytic data emphasizing detection and correction of experimental errors. Correlated with Chem 23. Prerequisite: Chem 12, 13, or 16. (Fall and spring)

23 **Introductory Quantitative Analysis Laboratory (2)** Schmidt and Staff
Laboratory complement to Chem 22. Prerequisite or concurrent registration: Chem 22. Laboratory fee, \$35. (Fall and spring)

50 **Introduction to Organic Chemistry (4)** Caress, King
Lecture (3 hours), laboratory (3 hours). A one-semester course for students in other disciplines. This course does not fulfill the organic chemistry requirement for chemistry majors or premedical students. Credit may not be earned for both Chem 50 and Chem 151-52. Prerequisite: Chem 12 or 16. Laboratory fee, \$35. (Spring)

Second Group

105 **Environmental Chemistry (3)** Miller
Chemistry and physics of the environment, with emphasis on water and air pollution. Environmental analysis and modeling and their limitations. (Fall)

110 **Introduction to Physical Chemistry (3)** Ramaker
Gas, solid, and liquid state, chemical thermodynamics, solutions, chemical equilibrium, kinetics, quantum chemistry, spectroscopy, and macromolecules. Prerequisite: Chem 16 or 22 and 23; Math 31; Phys 2 or 22; or permission of instructor. Not open to chemistry majors. May not be taken for credit by students who have received credit for Chem 111-12 or an equivalent course.

111-12 **Physical Chemistry (3-3)** Miller, Ramaker
Gas laws, chemical thermodynamics, chemical equilibrium, kinetics, quantum chemistry, atomic and molecular spectra, structure of solids, liquids, and macromolecules. Prerequisite to Chem 111: Chem 16 or 22 and 23; Math 31; Phys 21, 22; or permission of instructor. Prerequisite to Chem 112: Chem 111. (Academic year)

113 **Physical Chemistry Laboratory (2)** Miller, DiLella
Laboratory complement to Chem 111. Prerequisite or concurrent registration: Chem 111. Laboratory fee, \$35. (Spring)

122 **Instrumental Analytical Chemistry (3)** Montaser
Theory of instrumental methods in qualitative and quantitative analysis, determination of structure, with emphasis on electroanalysis, atomic and molecular spectrophotometry, mass spectrometry, and chromatography. Correlated with Chem 123. Prerequisite or concurrent registration: Chem 111 or permission of instructor. (Fall)

123 **Instrumental Analytical Chemistry Laboratory (2)** DiLella
Laboratory complement to Chem 122. Prerequisite or concurrent registration: Chem 111 and 122. Laboratory fee, \$35. (Fall)

134 **Descriptive Inorganic Chemistry (2)** Rowley
Intermediate-level course emphasizing the descriptive chemistry of the elements. Prerequisite: Chem 16, or 22 and 23, and 152. (Spring)

141-42 Advanced Experimental Chemistry (3-2)

White, Caress, K

Chem 141: Experimental methods common to all disciplines of chemistry, use of the chemical literature, interpretation of spectra by correlation methods. Chem 142: Advanced organic and inorganic laboratory techniques. Emphasis on individual work and on sophisticated methods for the separation, characterization, and identification of compounds. Prerequisite: Chem 154. Prerequisite or concurrent registration: Chem 111 or permission of instructor. Laboratory fee, \$35 per semester. (Academic year)

151-52 Organic Chemistry (3-3)

Caress, Levy, K

Introductory course for science majors, premedical students, and others preparing for related graduate work. Systematic treatment of the structure, preparation, properties, and reactions of the principal classes of organic compounds. Fundamental principles of stereochemistry, reaction mechanisms, and spectroscopic methods of analysis are included. Credit may not be earned for both Chem 50 and Chem 151-52. Prerequisite to Chem 151: Chem 12 or 16. Prerequisite to Chem 152: Chem 151. (Academic year)

153-54 Organic Chemistry Laboratory (1-1)

Laboratory complement of Chem 151-52. Introduction to and practice in basic skills of synthesis, separation, and purification of organic compounds. Prerequisite or concurrent registration: Chem 151-52. Prerequisite to Chem 154: Chem 153. Laboratory fee, \$35 per semester. (Academic year)

156 Qualitative Organic Analysis (3)

Lecture (1 hour), laboratory (6 hours). Separation of mixtures such as essential oils, peptides, commercial pharmaceuticals, carbohydrates, and/or others as appropriate; identification of their components using spectroscopic techniques including GLPC, TLC, and HPLC) and the spectral interpretation of unknown substances. Prerequisite: Chem 16 or 22 and 23, 154. Laboratory fee, \$35. (Spring, odd years)

191 History of Chemistry (2 or 3)

Historical development of chemistry from antiquity to the 20th century. Prerequisite: Chem 12. (Fall)

193 Chemical Instrumentation (3)

Lecture (2 hours), laboratory (3 hours). Electronic analog measurements and control of electrical quantities in chemical instrumentation; digital and analog data conversion and optimization of electronic measurements in chemical instrumentation. Prerequisite: Chem 112 and 123 or permission of instructor. Laboratory fee, \$10. (Fall)

195 Undergraduate Research (1 or 2)

Research on problems approved by the staff. Approval must be obtained prior to registration. A final written report on the work is required. For students requiring Special Honors in chemistry, a poster or oral presentation is also required. May be repeated once for credit. Majors are encouraged to take the course for two semesters. Laboratory fee, \$35 per semester hour. (Fall and spring)

Third Group**207 Chemical Bonding (3)**

Quantum mechanics, approximate methods, electron spin, Pauli principle, atomic and molecular structure. Prerequisite: Chem 112. (Fall)

211-12 Physical Chemistry (2-1)

Same as Chem 111-12. Admission only by departmental permission. Credit assigned upon satisfactory completion of Chem 213. (Academic year)

213 Chemical Thermodynamics (3)

Application of thermodynamics to chemical problems. Emphasis on statistical calculation of thermodynamic properties. Prerequisite: Chem 112 or 113. (Spring)

- 218 **Molecular Spectroscopy** (3) DiLella
Applications of quantum mechanics and group theory to the interpretation of electronic, vibrational, rotational, and magnetic resonance spectroscopy. Prerequisite: Chem 207. (Spring, odd years)
- 221 **Advanced Analytical Chemistry I** (3) Montaser
Theory and application of recent spectrometric methods of analysis, including electrical, magnetic, and optical instrumentation, X-ray methods, and surface analysis techniques. Prerequisite: Chem 122. (Fall)
- 222 **Advanced Analytical Chemistry II** (3) Schmidt
Theory and application of electroanalysis and separations by physiochemical methods. Prerequisite: Chem 122. (Spring, even years)
- 233 **Organometallic Chemistry** (3) White
Survey of organometallic compounds, with emphasis on the compounds of lithium, boron, aluminum, silicon, and the transition metals and the catalytic role of certain organotransition metal complexes. Prerequisite: Chem 235 and 251, or permission of instructor. (Spring, even years)
- 235-36 **Advanced Inorganic Chemistry** (3-3) Staff
Application of modern chemical theories to inorganic substances and reactions; detailed study, developed from the periodic table, of the chemistry of the more common elements; introduction to bioinorganic and organometallic chemistry. Prerequisite to Chem 235: Chem 112, 152. Prerequisite to Chem 236: Chem 235. (Academic year)
- 251-52 **Advanced Organic Chemistry** (3-3) Filipescu
Synthesis, reactions, and properties of organic compounds; fundamental theories of organic chemistry, emphasis on reaction mechanisms. Prerequisite to Chem 251: Chem 112, 152. Prerequisite to Chem 252: Chem 251. (Academic year)
- 257 **Physical-Organic Chemistry** (3) Levy
The transition state theory of chemical kinetics, applications to reaction mechanisms; kinetic isotope effects, linear-free energy relationships, concentrated and "super" acids, Woodward-Hoffman rules, free radical reactions. Prerequisite: Chem 252 or permission of instructor. (Fall, odd years)
- 258 **Synthesis and Structure Determination in Organic Chemistry** (3) Staff
The design of synthesis for complex organic molecules; survey of modern synthetic methods, including asymmetric induction; spectroscopic methods of structure determination. Prerequisite: Chem 251 or permission of instructor. (Fall, even years)
- 259 **Polymer Chemistry** (3) Barkin
A study of the preparation, properties, and structure of macromolecules. Prerequisite: Chemistry 152 and 110 or 111 or permission of instructor. (Fall, odd years)
- 295 **Research** (arr.) Staff
Research on problems approved by the staff. Open to qualified students with advanced training. May be repeated for credit not to exceed a total of 8 semester hours. Laboratory fee, \$35 per semester hour. (Fall and spring)
- 298 **Independent Study** (3) Staff
Limited to master's degree candidates. A survey of a topic approved by departmental staff and resulting in a written report, and the presentation of a seminar.
- 299-300 **Thesis Research** (3-3) Staff
(Fall and spring)

Fourth Group

- 350 **Choice and Design of a Research Problem** (1) Staff
Development in written form of an original research plan, fully referenced, and its oral defense. If a grade of C is received, the student must repeat this course for credit and must develop a new research plan. (Fall and spring)

398 Advanced Reading and Research (arr.)

Limited to students preparing for the Doctor of Philosophy cumulative examinations. May be repeated for credit. (Fall and spring)

399 Dissertation Research (arr.)

Limited to Doctor of Philosophy candidates. May be repeated for credit. and spring)

CHINESE

See East Asian Languages and Literatures.

CLASSICS

Professor J.E. Ziolkowski (Acting Chair)

Associate Professor E.A. Fisher

Assistant Professors M.D. Ticktin, Y.M. Moses

Assistant Professorial Lecturer D.B. Beers

Instructor Y.M. Moses

Bachelor of Arts with a major in classical humanities (departmental)—The following requirements must be fulfilled:

1. The general requirements stated under Columbian College of Arts and Sciences.
2. Prerequisite courses—Clas 1-2, 3, 4; or equivalent; or Clas 11-12, 13-14; or equivalent; and Clas 71, 72.
3. Required courses in the major—(a) 12 semester hours selected from second-group classics courses; (b) 18 semester hours selected from Art 101, 102, 103, 112, 155; Hist 105, 107, 108, 109, 110, 111, 209; Phil 111; PSc 105; Rel 143.

Bachelor of Arts with a major in classical archaeology and classics (departmental)—An interdepartmental major arranged in conjunction with the Department of Art. The following requirements must be fulfilled:

1. The general requirements stated under Columbian College of Arts and Sciences.
2. Prerequisite courses—Clas 1-2, 3, 4; or Clas 11-12, 13-14.
3. Required courses in the major—Art 101, 102, 112, 155; three courses selected from Hist 107, 108, 109, 110, 209; 6 semester hours in second-group courses in Greek or Latin. (A reading knowledge of French and German is recommended.)

Minor in classical humanities—(a) 6 semester hours selected from Clas 1-2 or 11-12; (b) 9 semester hours selected from Clas 3, 4, 13, 14, 71, 72, 105, 107, 108, 113, 127, 170, 185, 186; (c) 6 semester hours selected from Art 101, 102, 103, 111; Hist 107, 108, 109, 110.

COURSES IN GREEK, HEBREW, LATIN, AND YIDDISH**First Group****1-2 Beginning Latin (3-3)**

Grammatical essentials of Latin, appropriate reading selections, development of English derivatives, introduction to Roman life and literature. (Academic year)

3 Intermediate Latin: Prose and Poetry (3)

Development of ability to read and understand Latin literature of moderate difficulty. Prerequisite: Clas 1-2 or equivalent. (Fall)

4 Vergil's Aeneid (3)

Significant passages of Vergil's famous epic—in Latin; reading and discussion of the entire poem in translation. Prerequisite: Clas 3 or permission of instructor. (Spring)

11-12 Beginning Greek: Classical (3-3)

Study of the grammar, vocabulary, and structure of ancient Greek. Reading of selected ancient authors. (Alternate academic years)

- 13-14 **Intermediate Greek: Classical** (3-3) Staff
Reading of ancient Greek prose or poetic works (e.g., selections from Homer, Plato, Euripides). Review of grammar. Prerequisite: Clas 11-12 or equivalent. (Alternate academic years)
- 21-22 **Beginning Hebrew** (4-4) Moses
An active presentation of Hebrew as it is spoken and written today. Comprehension, speaking, reading, and writing skills are stressed. Laboratory fee, \$35 per semester. (Academic year)
- 23-24 **Intermediate Hebrew** (3-3) Ticktin
Further development of skills in speaking, reading, writing, and comprehension of modern Hebrew. Texts range from Israeli newspaper items to selections from classical materials. Prerequisite: Clas 21-22 or equivalent. Laboratory fee, \$35 per semester. (Academic year)
- 25-26 **Yiddish for Reading and Conversation** (3-3) Ticktin
Grammatical essentials of the language, appropriate reading selections, conversational exercises for beginners. (Alternate academic years)

Second Group

- 103 **Modern Hebrew Nonfiction** (3) Moses
Directed readings in humanities and social sciences. Development of linguistic skills necessary for independent research. May be repeated for credit. Prerequisite: Clas 24 or permission of instructor. (Fall)
- 104 **Modern Hebrew Fiction** (3) Moses
Study of selected modern Israeli short stories and poems. May be repeated for credit. (Spring)
- 109-10 **Major Latin Authors** (3-3) Ziolkowski
Selections from one or two major authors will be read each semester. May be repeated for credit. Prerequisite: Clas 3, 4; or permission of instructor. (Academic year)
- 139-40 **Major Greek Authors** (3-3) Staff
Selections from a wide variety of Greek prose, drama, and poetry, suited to the needs of the class. May be repeated for credit with permission of instructor. Prerequisite: Clas 14. (Academic year)
- 185-86 **Directed Reading** (1, 2, or 3) Staff
Advanced reading in Greek, Hebrew, or Latin. Admission by permission of instructor. May be taken for graduate credit.

COURSES IN ENGLISH TRANSLATION

First Group

- 63 **Greek and Latin Origins of Medical Terms** (3) Staff
Mastery of medical terminology by learning word elements from Greek and Latin and the principles that govern both the formation of medical words and the derivation of their meanings. (Fall)
- 71 **Greek Literature and Civilization** (3) Staff
Study of ancient Greek civilization with focus on public and private life as seen primarily through literature. (Fall)
- 72 **Roman Literature and Civilization** (3) Staff
Study of Roman civilization with focus on public and private life as seen primarily through literature. (Spring)
- 100 **Modern Hebrew Literary Classics** (3) Ticktin
Prose and poetry of a century of writing from the beginning of the Hebrew literary renaissance to contemporary Israeli literature, including works of Bialik, Agnon, Hazaz, Amichai, Oz, and Yehoshua. Discussions stress historical development and authors' treatments of tradition and modernity.

Second Group

- 101 **Israeli Society and Culture: Literary Perspectives** (3)
A study of literature reflecting such contemporary issues as the conflict between the "builders' generation" and their children; the cultural contacts of Ashkenazim and Sefardim; image of the Arab; impact of the Holocaust; Zionist ideals and current realities. (Fall) Tickin
- 102 **Contemporary Israeli Short Stories and Poetry** (3)
An introduction to post-1948 writers, including A.B. Yehoshua, Amos Oz, David Shahar, Aharon Apfeld, Dahlia Ravikovitch, Yehuda Amichai, Haim Gury, Amir Gilboa, and Amalia Kahana-Karmon. (Spring) Tickin
- 105 **Special Topics** (3)
Topics in Greek, Hebrew, Roman, and Yiddish literature; topics announced in the *Schedule of Classes*. May be repeated for credit provided the topic differs. Staff
- 107 **Greek and Roman Mythology** (3)
The creation of the world, the nature of the gods, and the adventures of heroes as described in various Greek and Roman literary sources (e.g., epic, drama, hymns) and as shown in ancient art. Introduction to various theories about the nature and function of mythology (e.g., Jung, Levi-Strauss). (Fall) Ziolkowski
- 108 **Approaches to Classical Mythology** (3)
Selected classical myths examined through various disciplinary approaches, such as archaeology, psychology, history, and women's studies. Prerequisite: Clas 107. (Spring) Staff
- 113 **Greek and Roman Drama** (3)
Study of Greek and Roman tragedy and comedy; the nature and setting of dramatic performance in classical antiquity. (Spring) Staff
- 127 **Classical Influence on Western Civilization** (3)
A survey of Greek and Roman influence on Western civilization, especially in architecture, language, literature, and science. Prerequisite: a course in classical literature or history. Ziolkowski
- 170 **Women in Classical Antiquity** (3)
In-depth study and discussion of readings from ancient and modern sources on the role of women in Greek and Roman society. Staff

COMMUNICATION

Professors W.M. Reynolds, C.H. Sterling (Acting Chair), J.B. Manheim
Associate Professor J.E. Thiel
Assistant Professors S. Keller, D.A. Durham, M. Keeler
Adjunct Assistant Professors M.M. Travis, D. Havinga
Instructor E.M. Murray

Bachelor of Arts with a major in radio-television (departmental)—The following requirements must be fulfilled:

1. The general requirements stated under Columbian College of Arts and Sciences, including Phil 45 and Stat 51 or 53 or 91; Psyc 1 and 8 or Econ 11 and 12; and Phil 51 and 52.
2. Required courses in related areas—15 semester hours of second-group courses in a single subject area outside the Communication Department, as approved by the major advisor.
3. Required departmental courses—Comm 1, 100, 110, and 199.
4. Required courses in the major—Comm 75, 133, 134, and 145. Eighteen hours of second-group radio-television or film courses, as approved by the major advisor; 9 of these hours must be in the 180-189 sequence.

Bachelor of Arts with a major in speech communication (departmental)—The following requirements must be fulfilled:

1. The general requirements stated under Columbian College of Arts and Sciences, including Phil 45 and Stat 51 or 53 or 91; Psyc 1 and 151 or Econ 11 and 12; and Phil 51 and 52.

2. Required courses in related areas—15 semester hours of second-group courses in a single subject area outside the Communication Department, as approved by the major advisor.

3. Required departmental courses—Comm 1, 100, 110, and 199.

4. Required courses in the major—Comm 112, 121, 126, and 143 or 144. Fifteen hours of second-group speech communication courses as approved by the major advisor; 6 of these hours must be in the 180–189 sequence.

Minor in speech communication—18 semester hours of communication courses, including Comm 1, 112, 121, and 126.

First Group

1 Speech Communication (3) Keller and Staff

The study and practice of the basic principles and techniques of public speaking used to inform and persuade audiences. Emphasis on the speech building process: research, composition, organization, style, delivery, and criticism. (Fall and spring)

30 Television's View of America (3) Travis

The role of television entertainment and news programming in portraying the American people and interpreting their values and aspirations, their faults and frailties, their successes and failures, their heroes and villains. (Summer)

55 Introduction to Electronic Mass Media (3) Staff

Introduction to theory, forms, content, research, and societal role of American broadcasting and newer media as a process in communication. The course provides a context for studies in journalism, management, sociology, political science, and economics. (Summer)

75 Sight and Sound (3) Thiel

Development of a critical awareness of aural and visual communication through an introduction to the aesthetics, techniques, and organization of the creative process in electronic media. Lecture (2½ hours), laboratory (2 hours). Prerequisite: permission of instructor for nonmajors. Laboratory fee, \$25. (Fall and spring)

100 Communication Theory (3) Murray

Study of the various theoretical approaches that may explain the role of communication in society and its impact and practice. Examination of theories of rhetoric, communication, and mass communication, along with the biases, assumptions, and research methodologies of each approach. (Fall and spring)

Second Group

110 Research Methods in Communication (3) Durham

Scientific method and ethics of research, examined in relation to the study of communication. (Spring)

111 Business and Professional Speaking (3) Staff

Study of the communication process in business and professional organizations; practice in interviewing, small-group communication, and speeches for special occasions. Primarily for nonmajors. (Fall and spring)

112 Persuasion (3) Keller

In-depth study of the principles and techniques of persuasion, focusing on theory and practice. Emphasis is placed on the common-premise model while considering factors of image, support materials, emotion, audience analysis, and style. Prerequisite: Comm 1 or permission of instructor. (Fall and spring)

121 Small Group Communication (3) Murray

The study and practice of communication in small groups focusing on problem solving, norms, roles, and leadership. Prerequisite: Comm 1 or permission of instructor. (Fall and spring)

126 Argumentation and Debate (3) Staff

Study of the advocacy process, with emphasis on issue identification, use of evidence, and logical proof. Practice in oral advocacy and argumentative speaking. Prerequisite: Comm 1 or permission of instructor. (Fall and spring)

- 127 **Forensic Practice** (1)
Student participation in intercollegiate speech activities. May be repeated for total of 4 semester hours of credit. Admission by permission of instructor. (Fall and spring)
- 129 **TV News: The Politics of Visibility** (3)
Same as Jour/PSc 129.
- 130 **Radio and Television Production for Political Communication** (3)
Basic concepts of radio and television as communications media, with emphasis on design and production techniques with applications in political communication. Priority given to political communication majors. Laboratory fee, \$25. (Fall and spring)
- 132 **Radio-Television Performance** (3)
Introduction to the basic theories and techniques required for effective, non-dramatic media performance (i.e., announcing, moderating, newscasting, etc.). Laboratory fee, \$25. Prerequisite: Comm 1. (Spring and summer)
- 133 **Development of American Electronic Media** (3)
Study of the origins, structure, and nature of American broadcasting and related media. (Spring)
- 134 **Audio Production** (3)
Introduction to the basic concepts of radio as a communication medium; emphasis on the design and production technique of a variety of audio programs. Lecture (2½ hours), laboratory (2 hours). Prerequisite: Comm 75 (for radio-television majors) or permission of instructor. Laboratory fee, \$25. (Fall and spring)
- 137 **Scriptwriting** (3)
Study and practice of the forms, techniques, and types of writing for radio, television, and film. Prerequisite: Engl 11 or 12, and Comm 75 (for radio-television majors) or permission of instructor. (Fall)
- 142 **Topics in Electronic Media** (1 to 3)
Topic and fee announced in the *Schedule of Classes*. May be repeated for credit provided the topic differs. (Fall, spring, and summer)
- 143 **Origins of Contemporary Rhetorical Theory** (3)
Study of rhetorical theory and method as they evolved in the Western world from the classical period to the present. (Fall, even years)
- 144 **History of Rhetoric in American Public Address** (3)
Study of American oratory from its pre-Revolution origins to the present day, interpreted in terms of issues and movements. (Spring, odd years)
- 145 **Introduction to Television Production** (3)
Basic course in television production techniques and skills. Directing, scriptwriting, graphics, and other aspects of television production. Extensive practice in working television equipment; emphasis on various in-studio projects. Lecture (2 hours), laboratory (2½ hours). Prerequisite: Comm 134. Laboratory fee, \$35. (Fall)
- 146 **Television Directing** (3)
Advanced study and practice of television directing techniques. Students are expected to demonstrate skill in working with studio and electronic field production equipment and in the development of television programs from original concepts to final productions. Lecture (2 hours), laboratory (3 hours). Prerequisite: Comm 145 and permission of instructor. Laboratory fee, \$35. (Fall)
- 171 **Language of Cinema** (3)
Introduction to cinema as language through analysis of the components of film structure—camera, editing, sound, movement, music, dialogue, and mise-en-scène. Laboratory fee, \$25. (Fall)
- 173 **History of Cinema** (3)
An examination of the history, structure, and theory of motion pictures in America and abroad. Same as Art 173. Laboratory fee, \$30. (Fall)
- 174 **Special Studies in Film** (3)
In-depth study of specific film topics. Laboratory fee, \$25. Prerequisite: Comm 173. (Spring)

- 175 **The Political Image** (3) Travis
An analysis of the techniques of propaganda and rhetoric used in film and television to visualize political ideology. Laboratory fee, \$25. (Spring, even years)
- 176 **Film as Fact and Fiction** (3) Travis
A comparison of structural differences between documentary and fiction film in order to study how each presents different versions of reality. Laboratory fee, \$25. (Spring, odd years)
- 180 **Regulation and Policy in Electronic Media** (3) Sterling
Legal, technical, political, economic, and social aspects of radio, television, and cable and related delivery systems. Structure and operation of FCC and other agencies, plus role of Congress and courts. Consideration of problems in spectrum allocation, behavioral regulation, the trend to deregulate political influence, and current policy matters. Prerequisite: Comm 133. (Fall)
- 181 **Inside Television: Corporate Strategy and Management** (3) Staff
Seminar on the operations and decision-making activities of the television industry: networks, affiliates, independent stations, public television, and cable/satellite organizations. Topics include programming, sales, representation, promotion, ratings, and legal constraints. Prerequisite: Comm 133. (Spring)
- 182 **Innovation in Electronic Media** (3) Durham
Examination of current and future trends in electronic media, with emphasis on radio, television, and cable, including developments in technology, programming, industry structure, and public policy. Prerequisite: Comm 133. (Fall)
- 184 **International Communication** (3) Staff
Examination of the historical and present communication activities of major international news-gathering and broadcasting organizations, international communications policy forums, organizations and treaties, spectrum allocation criteria, communications technology, programming development, and trade. The role of international propaganda as a policy tool; the current debate over a "New World Information order." Prerequisite: Comm 133. (Spring, even years)
- 185 **Comparative Communication Systems** (3) Staff
In-depth study of the developmental, regulatory, political, economic, and cultural dimensions of selected foreign communication systems; emphasis on broadcasting, cable, and satellite applications. Prerequisite: Comm 133. (Spring)
- 187 **Seminar: Topics in Communication** (1 to 3) Staff
Topic and fee announced in the *Schedule of Classes*. May be repeated for credit provided the topic differs. (Fall and spring)
- 189 **Effects of Electronic Media** (3) Durham
Current concepts of the impact of broadcasting and related media on audiences; social science research findings and methods, including persuasion, formation of opinion, media and personal interaction, violence, audience characteristics and media use patterns, and development of related theories and models of mass communication. Prerequisite: Comm 133. (Spring)
- 196 **Independent Study** (1 to 6) Staff
Independent research and special projects. Open to seniors or exceptionally well-prepared juniors majoring in speech communication. Before students are permitted to register for Comm 196, they must submit a written proposal of the plan of study and obtain approval of the staff member who will be directing the study and of the department chairman.
- 197 **Internship: Radio and Television** (3) Thiel
Open to seniors majoring in radio-television. Students will spend at least 16 hours a week during the semester in an approved media position with local nonprofit, corporate, or commercial organizations. Seminar meetings, reports, and career-oriented projects. Admission requires departmental approval. May be repeated once for credit. (Fall and spring)

199 Senior Seminar in Communication (3)

Capstone course providing a survey and integration of the major viewpoints and concepts of communication. Reading, research, and class discussions on selected topics. Under the guidance of an instructor, the student writes a major research paper on an approved topic. Limited to communication majors. Prerequisite: all communication required courses or permission of instructor and the major advisor. (Fall)

COMPUTER AND INFORMATION SYSTEMS

See **Statistics/Computer and Information Systems**.

COUNSELING

See **Human Services**.

CRIME IN COMMERCE

See **Forensic Sciences**.

CRIMINAL JUSTICE

See **Sociology** for the Bachelor of Arts with a major in criminal justice.
See **Forensic Sciences** for the Master of Arts in the field of criminal justice.

DANCE

See **Theatre and Dance**.

DRAMA

See **Theatre and Dance**.

EARLY MODERN EUROPEAN STUDIES**Committee on Early Modern European Studies**

R.E. Kennedy, Jr. (Chair), I. Azar, C.A. Linden, J.A. Quitslund, L.F. Robinson, R.H. Schlager, K. Thoenelt, D. Wallace

The Columbian College of Arts and Sciences offers an interdisciplinary program in Early Modern European Studies. This humanities program is designed to enhance the student's understanding of the history, philosophy, religion, science, literature, and art of the five centuries (1300-1800) during which the Western world began to take on its modern dimensions. The program is directed by an interdepartmental committee.

Bachelor of Arts with a major in early modern European studies—The following requirements must be fulfilled:

1. The general requirements stated under Columbian College of Arts and Sciences
2. Requirements for the major:
 - a. The core interdisciplinary course *Individualism, Reason, and Tradition in Early Modern Europe* (Hist/Engl/Fren/Ger/Rel 183, and Art 187).
 - b. Six semester hours of second-group French, German, or Spanish literature courses taught in the language, from among the following: Fren 120, 121, 122, 123; Ger 103-4, 111-12, 131-32; Span 121-22, 123-24, 125.
 - c. Phil 112; Rel 145; PSc 106.
 - d. Twenty-seven semester hours of art history, history, and English literature, with the course distribution to be determined in consultation with the program advisor, and with a minimum of 6 hours from each of the following groups: Art 104-5, 106-7, 108, 113-14, 121-22; Engl 125-26, 127-28, 129, 130, 131-32; Hist 101, 105, 121-22, 123, 141, 148, 151, 153, 154.

EAST ASIAN LANGUAGES AND LITERATURES

Professors C.W. Shih (Chair), J. Chaves
 Associate Professors D.L. Lee, Y.-K. Kim-Renaud
 Associate Professorial Lecturer M.-J.C. Loh
 Assistant Professor G.C.Y. Wang
 Instructor T. Kimura
 Lecturers L.Y.C. Jiordano, N.H. Kuo

Bachelor of Arts with a departmental major in Chinese language and literature—The requirements are as follows:

1. The general requirements stated under Columbian College of Arts and Sciences.
2. Prerequisite courses—Chin 5-6 (preferred); or Chin 1-2, 3-4.
3. Required for the major—Chin 11-12, 107-8, 109-10, and 163-64 or 181-82; plus 12 additional semester hours of second-group Chinese courses.

Minor in Chinese language and literature—Prerequisite: 18-22 credit hours, including either Chin 1-2, 3-4, and 11 or Chin 5-6 and 11. The minor consists of 12 additional credit hours selected from Chin 12, 107-8, 109-10, 123-24, 163-64, 179-80, or 181-82.

CHINESE

First Group

- 1-2 **Beginning Mandarin Chinese, Part I** (3-3) Wang
 Fundamentals of grammar and pronunciation, with graded reading and practice in writing. Laboratory fee, \$35 per semester. (Academic year)
- 3-4 **Beginning Mandarin Chinese, Part II** (3-3) Wang
 Continuation of grammar and spoken Chinese, with more emphasis on the written language and reading. Laboratory fee, \$35 per semester. (Academic year)
- 5-6 **Beginning Intensive Mandarin Chinese, Parts I-II** (8-8) Lee
 Intensive beginner's course in fundamentals of grammar and pronunciation, with graded reading and practice in writing. Laboratory fee, \$35 per semester. (Academic year)
- 10 **Chinese Calligraphy** (1) Loh
 Writing of Chinese characters with traditional writing implements. No knowledge of the language required. May be repeated for credit. (Fall and spring)
- 11-12 **Intermediate Intensive Mandarin Chinese** (6-6) Wang
 Reading of basic texts, writing of short pieces, conversation, systematic review of grammar. Prerequisite to Chin 11: Chin 6. Laboratory fee, \$35 per semester. (Academic year)
- 22 **Intermediate Chinese Conversation** (3)
 A practical course for improving speaking ability. Prerequisite: 6 credit hours of Chinese or equivalent. May be repeated for credit. (Fall and spring)

Second Group

- 107-8 **Readings in Modern Chinese** (3-3) Staff
 Readings in selected modern literary works, social science materials, and documentary materials. Prerequisite: Chin 12 or equivalent. (Academic year)
- 109-10 **Introduction to Classical Chinese** (3-3) Shih, Chaves
 Introduction to classical writings in Chinese literature, history, and philosophy. Prerequisite: Chin 6. (Alternate academic years)
- 123-24 **Introduction to Chinese Linguistics** (3-3) Lee
 Introduction to the history of the Chinese language. Analysis of linguistic structure of modern spoken Chinese and classical Chinese. Prerequisite: Chin 6 or equivalent, or a course in linguistics. (Alternate academic years)

- 161-62 **Chinese Culture Through Films** (3-3)
Survey of the Chinese cultural heritage presented through films. Topics include literature, philosophy, art, religion, and social history from prehistorical times to the modern era. Lectures and discussion in English.
- 163-64 **Chinese Literature in Translation** (3-3)
An introductory course focusing on major works of poetry, drama, and the novel in their historical and social context. (Academic year)
- 179-80 **20th-Century Chinese Literature** (3-3)
Works of Lu Xun, Lao She, and others. Drama of Tian Han and Cao Yu. Prerequisite: Chin 107 or equivalent. (Alternate academic years)
- 181 **Literature in Traditional Chinese Society—in Translation** (3)
Introduction to the various roles played by literature in pre-modern China, as well as the reflection of society in traditional literature.
- 182 **Literature in the People's Republic of China—in Translation** (3)
Survey of stories, poems, and plays in the PRC and their role in political and social events.
- 185-86 **Directed Reading** (3-3)
Reading of material in the student's field of interest. Admission by permission of instructor. (Academic year)
- 199-200 **Proseminar: Readings for the Major in Chinese Language and Literature** (3-3)
Conferences and group discussions. (Academic year)

Third Group

- 271-72 **Poetry of the Tang and Song Periods** (3-3)
Reading of works of leading poets. Discussion of content and style. Prerequisite: Chin 109 or equivalent. (Alternate academic years)
- 273 **Yuan Drama** (3)
Readings of plays by Guan Han-ying, Ma Zhi-yuan, and others. Prerequisite: Chin 109 or equivalent.
- 277-78 **Prose Narratives of the Song, Ming, and Qing Periods** (3-3)
Short stories of the Song period. Selected readings of Ming/Qing novels. Historical development and stylistic traits. Prerequisite: Chin 107 or equivalent. (Alternate academic years)
- 299-300 **Thesis Research** (3-3)

JAPANESE

First Group

- 1-2 **Beginning Japanese, Part I** (4-4)
Fundamentals of grammar and pronunciation, with graded reading and practice in writing. Laboratory fee, \$35 per semester. (Academic year)
- 3-4 **Beginning Japanese, Part II** (4-4)
Continuation of grammar, with more emphasis on written language and reading. Laboratory fee, \$35 per semester. (Academic year)
- 5-6 **Intermediate Japanese, Part I** (3-3)
Reading of basic texts, writing of short pieces, conversation, systematic review of grammar. Laboratory fee, \$35 per semester. (Academic year)
- 7-8 **Intermediate Japanese, Part II** (3-3)
Continuation of reading of basic texts, writing of short pieces, conversation, systematic review of grammar. Laboratory fee, \$35 per semester. Prerequisite: Jpn 5-6. (Academic year)

Second Group

- 111-12 **Japanese Literature in Translation** (3-3)
An introductory survey of traditional and modern Japanese literature read in English translation: love and nature poetry; theater (classical drama, puppet

plays); fiction; diaries. Particular emphasis is placed on the great women writers of Japan. (Academic year)

- 162 **Japanese Culture Through Films** (3) Shih, Chaves
Survey of the Japanese cultural heritage presented through films. Topics include literature, philosophy, art, religion, and social history from prehistorical times to the modern era. Lectures and discussion in English. (Spring)

KOREAN

First Group

- 1-2 **Beginning Korean, Part I** (4-4) Kim-Renaud
Fundamentals of grammar and pronunciation, with graded reading and practice in writing. Laboratory fee, \$35 per semester. (Academic year)
- 3-4 **Beginning Korean, Part II** (4-4) Kim-Renaud
Continuation of grammar, with more emphasis on written language and reading. Laboratory fee, \$35 per semester. (Academic year)
- 5-6 **Intermediate Korean** (3-3) Kim-Renaud
Reading of basic texts, writing of short pieces, conversation, systematic review of grammar. Laboratory fee, \$35 per semester. (Academic year)

EAST ASIAN STUDIES

Program Committee: W.R. Johnson (Director), H.C. Hinton, Y.C. Kim, C.W. Shih, R. Thornton, R.Y. Yin

The Elliott School of International Affairs offers multidisciplinary programs leading to a Bachelor of Arts with a major in East Asian studies (with a focus on either China or Japan) and a Master of Arts in the field of East Asian studies.

Bachelor of Arts with a major in East Asian studies—The following requirements must be fulfilled.

1. The general requirements stated under the Elliott School of International Affairs.
2. Prerequisite courses—see the Elliott School of International Affairs, Curriculum Requirements.
3. Required courses for the major—for the China focus: Chin 5-6, 11, and either 163 or 164; Econ 169; for the Japan focus: Japn 1-2, 3-4, either 111 or 112, and 3 additional hours in Japanese language; Econ 170; for both the China and Japan focus: one course selected from Geog 127, 132, 133, 134, 146, 266; three courses selected from Hist 137, 188, 189, 195, and either 187 or 196 (courses covering both premodern and modern periods are recommended); PSc 170 or 173; three 100-level elective courses in economics, history, or political science that are not related to China or Japan and that are selected in consultation with the advisor.
4. Preparation of a substantial research paper in a two-semester research course or independent study related to the chosen focus on China or Japan. The courses taken to fulfill this requirement must be approved in advance by the program director.

Master of Arts in the field of East Asian studies—Prerequisite: the admission requirements stated under the Elliott School of International Affairs and a bachelor's degree in a related field. Required: the general requirements stated under the Elliott School.

The program is available in a 30-semester-hour option with a thesis or a 36-semester-hour option without a thesis. Students electing the nonthesis option must prepare a substantial research paper in a two-semester readings/research course. (In the concentration in Chinese language and literature, only the thesis option is available.) Students with no previous course work in the modern history and politics of China and Japan may need to take additional courses beyond the minimum required for the degree to acquire this background. A reading knowledge of Chinese, Japanese, or another approved East Asian language must be demonstrated. Credit for language study is not counted toward degree requirements.

Students must complete course work related to East Asia in at least four of the following Departments: East Asian Languages and Literatures, Economics, Geography and Regional Science, History, and Political Science. (Those who choose the concentration in Chinese language and literature are excepted.)

Students in the thesis program must pass Master's Comprehensive Examinations in two fields, one in a major field (12 credit hours) and one in a minor field (6 credit hours). Students in the nonthesis program must pass the Examinations in three fields if they select one major field and two minor fields and in two fields if they select two major fields.

Concentration in Chinese language and literature—only the thesis option is available. Students must take 12 credit hours of Chinese literature and pass a Master's Comprehensive Examination in this major field. They must also take 6 hours of history courses and 6 hours of additional courses that pertain to East Asian studies and must pass a Master's Comprehensive Examination in one of these two minor fields.

The following graduate courses pertain to East Asian studies.

Chin 271-72	Poetry of the Tang and Song Periods
Chin 273	Yuan Drama
Chin 277-78	Prose Narratives of the Song, Ming, and Qing Periods
Econ 269-70	Economy of the People's Republic of China
Econ 271	Economy of Japan
Geog 266	Seminar: Geographic Perspectives on Contemporary China
Hist 253-54	Readings Seminar: History of Sino-Soviet Relations
Hist 255-56	Readings Seminar: U.S.-Soviet Strategic Relations Since World War II
Hist 259-60	Research Seminar: Problems in U.S.-Soviet-Chinese Relations
Hist 289	Readings/Research Seminar: Modern Japanese History
Hist 293	Research Seminar: Modern East Asian History
Hist 295-96	Readings Seminar: Modern Chinese History
IAff 291	Colloquium: East Asia
PSc 270-71	Politics of the People's Republic of China
PSc 272	Foreign Policy of the People's Republic of China
PSc 275	International Politics of the Far East
PSc 276	Governments and Politics of Japan and Korea

ECONOMICS

Professors J.W. Kendrick (Emeritus), C.T. Stewart, Jr., J. Aschheim, H. Solomon, S. Levitt (Emeritus), C.Y. Hsieh (Emeritus), J.L. Gastwirth, M.A. Holman, R.M. Dunn, Jr., W.F. Long (Emeritus), S.E. Haber, A. Adams, R.S. Goldfarb, O. Havrylyshyn, A.M. Yezzer, J. Cordes, J. Pelzman, J.E. Kwoka, R.P. Trost, B.L. Boulter (Chair)
 Adjunct Professors T.F. Carroll, P. Swamy, J. Hardt, E.H. Solomon, D.J. Rousslang
 Professorial Lecturers R.E. French, K.S. Flamm
 Associate Professors R.Y. Yin, H.S. Watson, M.D. Bradley, S.C. Smith, T.J. Brennan
 Adjunct Associate Professor M.A. Baily
 Associate Professorial Lecturer S.N. Kirby
 Assistant Professors V. Fon, M.B. Loewy, M.-H. Ye, R.F. Phillips, F.L. Joutz, M.O. Moon, S.M. Suranovic

Bachelor of Arts with a major in economics (departmental)—The following requirements must be fulfilled:

1. The general requirements stated under Columbian College of Arts and Sciences
2. Prerequisite course—Econ 11-12.
3. Required courses in related areas—Math 41 and 42, or equivalent; Stat 111 and 112, or equivalent; 6 semester hours of a social science other than economics (Hist 39-40, 71-72 and Phil 51-52 are recommended).
4. Required courses in the major—Econ 101, 102, 121, 198, and 15 additional semester hours of second-group economics courses to be approved by the departmental advisor.

Minor in economics—(a) 18 credit hours in economics, including Econ 11–12, 101, 102, 121, and one other 100-level course in economics; (b) 6 credit hours of an approved statistics sequence, such as Stat 111–12; or 6 hours selected from Math 31, 32, 41–42, 51–52; or 3 hours of an approved statistics course plus 3 hours selected from Math 31, 32, 41–42, 51–52.

Master of Arts in the field of economics—Prerequisite: (1) a Bachelor of Arts degree with a major in economics or with course work in economics that includes intermediate microeconomic and macroeconomic theory (equivalent to Econ 101, 102 or 217–18); (2) an understanding of basic calculus, equivalent to Math 31–32 or 41–42; (3) Graduate Record Examinations for all applicants except international students who attended universities in which the language of instruction is not English. Applications are accepted for the fall semester only.

Required: the general requirements stated under the Graduate School of Arts and Sciences, including (1) Econ 203–4, 205, and 275; (2) 12 additional semester hours to be selected from other third-group economics courses; (3) a Master's Comprehensive Examination in economic theory; and (4) either a thesis (Econ 299–300) or 12 semester hours selected from additional third-group economics courses. In some cases, up to 6 semester hours in courses outside the Department may be substituted for certain of the above requirements when it is deemed clearly important to the candidate's area of study.

Doctor of Philosophy in the field of economics—The Ph.D. program involves study in two sequential units. Unit I includes satisfactory completion of required course work, and passing the General Examination. This first unit must be concluded within five years after entry into the program. Upon successful completion of Unit I, students are considered for admission to Unit II, the dissertation stage, which must be completed within five years after entry. In all cases, however, the student is expected to complete the doctorate within eight years after admission. Students admitted to the second unit will be recommended by the Department of Economics for the Master of Philosophy degree.

Students must meet the general requirements stated under the Graduate School of Arts and Sciences. For Unit I, the requirements include Econ 202, 203, 204, 205, 206, 215, 216, and 275, plus 24 additional semester hours of approved graduate course work, and passing the General Examination in microeconomic theory, macroeconomic theory, and two other fields selected by the student and approved by the doctoral program committee. Examinations are given in the following fields: econometrics, economic development, environmental and natural resource economics, health economics, history of economic thought, industrial organization, international economics, labor economics, monetary theory and policy, public finance, regional and urban economics, and Soviet and East European economics.

Examinations: the field examinations that constitute the General Examination are given at least two times per year. The requirements for the microeconomic and macroeconomic theory examinations must be met before any other field examinations may be taken. Students are strongly advised to take the microeconomic and macroeconomic theory examinations within two years of entering the program. To pass the General Examination, students must earn a grade of "satisfactory pass" or better in the field examination in microeconomic or macroeconomic theory and in one of the other two field examinations and no grade below "bare pass." Two of the field examinations may be taken a second time with the approval of the department and the dean. No further opportunity to take the examinations is permitted. Substitution of a field examination (in an area not originally chosen by the student) to satisfy the requirements of the General Examination is equivalent to taking a field examination a second time. Students should consult with the professors responsible for their fields and notify the department two months in advance of their intention to take the examinations. If such notification is not given sufficiently in advance, it may not be possible to sit for the examination.

For Unit II, the requirements include formulation of an acceptable dissertation proposal, completion of a dissertation that demonstrates the candidate's ability to do original research, and 24 hours of additional graduate course work, of which at least 12 hours must be dissertation research. Students, including those who have an accepted dissertation pro-

posals, must enroll in a dissertation proposal seminar (Econ 397) in the first semester after promotion to Unit II. Satisfactory performance in the seminar will be equivalent to semester hours of Unit II course work. In cases where knowledge outside the discipline of economics is critical to the student's research field, up to 6 semester hours in Unit II may consist of required courses outside of the Economics Department.

Departmental prerequisite: Econ 11-12 is prerequisite to all other courses in economics except Econ 217-18.

First Group

- 11-12 **Principles of Economics** (3-3) Bradley, Dunn, Goldfarb, Trost
(Econ 11 formerly Econ 2; Econ 12 formerly Econ 1)
Lecture (2 hours), discussion (1 hour). Survey of the major economic principles, institutions, and problems in contemporary life. Econ 11: Microeconomics—supply and demand, the price system and how it works, competitive and monopolistic markets. Econ 12: Macroeconomics—national income concepts, unemployment and inflation, institutions of monetary control. Econ 11 is prerequisite to Econ 12. (Econ 11 and 12—fall and spring)

Second Group

- 101 **Intermediate Microeconomic Theory** (3) Yezer, Fon, Goldfarb, Phillips
Analysis of household economic behavior, including derivation of demand functions. Analysis of firm behavior, including derivation of supply frameworks. Demand and supply interaction under various market structures and in factor markets. (Fall and spring)
- 102 **Intermediate Macroeconomic Theory** (3) Yin, Bradley
Investigation of the determinants of national income, inflation, unemployment, and interest rates. Alternative business cycle theories, with emphasis on the role of imperfect information, uncertainty, and expectations. (Fall and spring)
- 104 **History of Economic Thought** (3) Stat
History of the major schools of economic thought, influence of changing problems on the development of economic theory. Prerequisite: Econ 101, 102. (Fall and spring)
- 105 **Economic Conditions Analysis and Forecasting** (3) Stat
Theory and empirical analyses of economic trends and fluctuations; use of economic indicators and simple econometric models. (Fall)
- 121 **Money and Banking** (3) Jour
The role of money, credit, interest rates, foreign exchange rates, and commercial banks and other financial institutions in the U.S. economy. (Fall and spring)
- 122 **Monetary Theory and Policy** (3) E. Solomon
Analysis of classic and modern monetary theories and their application to current economic conditions. The links between theory and policy. The altered role of money over time; the new money technology. (Spring)
- 123 **Introduction to Econometrics** (3) Trost, Phillips
Joint offering of the Economics and Statistics Departments. Construction and testing of economic models: regression theory, parameter estimation, and statistical techniques applicable to economic models. Prerequisite: Math 31 or 41. Stat 112. (Spring)
- 130 **Comparative Economic Systems** (3) Aschheim
Critical exposition of fundamental economic concepts and theories of capitalism, communism, socialism, and fascism.
- 133 **Economy of the Soviet Union** (3) Pelzman, Harold
Analysis and review of the economic development and performance of the Soviet Union from the pre-revolutionary period to the present. (Fall)
- 134 **Comparative Communist Economic Systems** (3) Pelzman, Harold
Analysis and review of the economic development and performance of the East European economies in the post-World War II period. Soviet-type and alternative planning models. (Spring)

- 136 **Natural Resources and Environmental Economics** (3) Yezer
Analysis of market mechanisms that allocate energy and natural and environmental resources; investigation of actual and optimal resource allocation across uses and time; review of arguments for public intervention. (Spring)
- 141 **Women in the Labor Market** (3) Haber
Application of theories of the household and of human capital to female labor force participation, marriage, and family formation; analysis of sex discrimination. (Spring)
- 142 **Labor Economics** (3) Haber
Analysis of labor supply and demand; measurement and theory of unemployment; occupational choice; wage differentials; labor market issues and policies. (Fall)
- 148 **Health Economics** (3) Bailly
Economic analysis of the determinants of demand, supply, output, and distribution in the health care sector, with special emphasis on current policy issues of access, quality, and cost. (Fall)
- 151 **Economic Development** (3) Havrylyshyn, Smith
Theories and empirical studies of the economic problems of developing countries. (Fall and spring)
- 153 **Income Distribution** (3) Haber
An analysis of the distribution of income, with focus on issues relating to wealth and poverty. (Spring)
- 157 **Urban and Regional Economics** (3) Yezer
Analysis of the determinants of urban growth and development; firm location; the functioning of urban land and housing markets.
- 158 **Industrial Organization** (3) Kwoka
Analysis of market structure, conduct, and performance of firms in a market economy, with emphasis on case studies of U.S. industries. (Fall)
- 159 **Government Regulation of the Economy** (3) Kwoka
Economic analysis of antitrust and regulation in the American economy. Prerequisite: Econ 158 or 101. (Spring)
- 161 **Public Finance I** (3) Cordes, Watson
Theoretical and institutional analysis of government expenditures and intergovernmental fiscal relations. (Fall)
- 162 **Public Finance II** (3) Cordes, Watson
Theoretical and institutional analysis of tax policy and debt management. (Spring)
- 165 **Economics of Human Resources** (3) Stewart
Economic analysis of education and training, research and innovation, and their relation to economic growth. (Fall)
- 169 **Introduction to the Economy of the People's Republic of China** (3) Yin
Background, organization, and operation of the economy. Appraisal of performance and analysis of problems of development. (Fall)
- 170 **Introduction to the Economy of Japan** (3) Staff
Analysis of the structure and growth of the Japanese economy. (Spring)
- 179 **U.S. Economic History** (3) Berkowitz
Same as Hist 179.
- 181-82 **International Economics** (3-3) Dunn, Pelzman, Moore, Suranovic
Econ 181: International trade theory and international monetary theory. Econ 182: Continuation of international monetary theory; economic development. (Academic year)
- 185 **Economic History and Problems of Latin America** (3) Staff
Analysis of present structures and problems of Latin American economies. (Spring)
- 195 **Special Topics in Economics** (3) Staff
Topics vary, depending on current issues of interest and faculty availability. (Fall and spring)

198 Proseminar in Economics (3)

Preparation and presentation of a research paper in any field of economics agreed upon by student and instructor. Review of selected topics in contemporary economics. Open only to economics majors in their senior year. (Fall and spring)

199 Independent Research in Economics (3)

Under the personal direction of an instructor. Limited to economics majors with demonstrated capability. Prior approval of instructor required. (Fall and spring)

Third Group

Third-group economics courses (except 211, 212, 214, 217-18, 221-22, 243, 247, 283-84) are designed for graduate students in economics. Graduate students in other disciplines may register for third-group courses after having completed Econ 217-18 or 101 and 102, unless the course description indicates that these prerequisites have been waived. Intermediate-level micro and macro courses taken elsewhere usually satisfy the requirement, but introductory or first-year courses do not. In addition to these prerequisites and any others specific to the particular course, calculus is required in some sections of third-group economics courses.

202 History of Economic Thought (3)

Critical analysis and interpretation of the development of economic theory from Plato through the formulation of the Neoclassical Synthesis paradigm and contemporary revisions of the Neoclassical Synthesis. (Fall)

203-4 Microeconomic Theory (3-3)

Econ 203: Demand, production, cost theory. Prerequisite: Econ 101 or equivalent.

Econ 204: Market structure, welfare, general equilibrium. Prerequisite: Econ 203 (Academic year)

205 Macroeconomic Theory I (3)

Alternative theories of income, employment, and the price level; fiscal and monetary policy impacts; the role of expectations in the economy. (Fall)

206 Macroeconomic Theory II (3)

Continuation of Econ 205. Extensions of alternative models of income determination; application of analytic frameworks to the U.S. economy; examination of uncertainty and policy strategy. (Spring)

208 National Income, Product, and Productivity (3)

Output, input, and productivity relationships by industry; income, output, flow-of-funds, and balance sheets by sector; uses of accounts for analysis and projections. (Fall)

211 Analytic Methods for Management and Policy I (3)

Primarily for graduate students in fields other than economics. Various quantitative techniques, such as simulation, cost-benefit analysis, mathematical programming, and difference equations, and their roles in policy analysis are analyzed theoretically and in a management/policy context. Prerequisite: Statistics and Econ 217 or equivalent. (Fall)

212 Analytic Methods for Management and Policy II (3)

Primarily for graduate students in fields other than economics. A more advanced treatment of the quantitative techniques introduced in Econ 211, including cost-benefit analysis and mathematical programming techniques. Additional topics include applications of game theory, econometric modeling, and simulation models to policy analysis. Prerequisite: Econ 211. (Spring)

214 Survey of Mathematical Economics (3)

Primarily for graduate students in fields other than economics. Students in economics should consult the instructor before taking this course. Topics include differentiation, partial differentiation, and economic optimization problems in comparative statics; input-output analysis; difference, differential equations, and economic applications. Prerequisite: one semester of calculus and Econ 217-18.

- 215-16 **Mathematical Economics** (3-3) Fon
Formulation and application of mathematical models in economic theory. Prerequisite: a one-year calculus sequence. Open to undergraduates with permission of instructor. (Academic year)
- 217-18 **Survey of Economics** (3-3) Goldfarb, Haber, Holman, Watson
Intermediate-level microeconomic theory (Econ 217) and intermediate-level macroeconomic theory (Econ 218) for graduate students in fields other than economics. Departmental prerequisite waived. (Econ 217 and 218—fall and spring)
- 221-22 **Applied Economics** (3-3) Staff
An extension of microeconomic welfare analysis to the study of contemporary policy issues, with an emphasis on resource allocation decisions in the public sector; models of individual choice making in policy analysis; and policy aspects of production, cost, and organizational decision making. Primarily intended for students in fields other than economics. Prerequisite: Econ 217 or equivalent. (Academic year)
- 223-24 **Monetary Theory and Policy** (3-3) Aschheim
Theory of monetary policy within the framework of contemporary American central banking. (Academic year)
- 233 **Rural Development Policies** (3) Carroll
Review of poverty-oriented rural development strategies in the LDCs. Theories and experiences of land reform, peasant cooperatives, small-farm technology, rural-urban linkages, and planning a rural service network. (Fall)
- 237 **Economics of the Environment and Natural Resources** (3) Holman
Analysis of public policy problems relating to the environment and natural resources development and management. (Spring)
- 239 **Economics of Defense** (3) H. Solomon
Economic analysis applied to national security planning and objectives. Analysis of defense establishment problems, including manpower, the defense industry base, procurement policy. (Spring)
- 241-42 **Labor Economics** (3-3) Goldfarb
Theory of wages and employment, analysis of labor supply and demand. Analysis of unemployment; unions; wage regulation. Econ 241 is prerequisite to Econ 242. (Academic year)
- 245-46 **Industrial Organization** (3-3) Kwoka
Econ 245: Economic theory and evidence regarding industrial market structure, conduct, and economic performance. Econ 246: Economic issues in antitrust and government regulation of the U.S. economy. Econ 245 is prerequisite to Econ 246. (Academic year)
- 247 **Seminar: Industrial Organization** (3) Staff
Selected topics in regulatory and antitrust economics. Prerequisite: Econ 101, 217, or equivalent. Offered off campus only. (Spring)
- 248 **Health Economics** (3) Bailly
Demand for medical care; organization of the health care delivery industry; policy issues on regulation, efficiency, and allocation of health care services. (Spring)
- 249 **Industrial Organization—The Telecommunication Industry** (3) Brennan
Principles of industrial organization, welfare economics, and theories of regulation, in principle and in practice. Market power, merger analysis, vertical relationships, entry, and regulation of price and lines of business. The study of market performance and business practices of the telecommunication industry. Prerequisite: Econ 217. Offered off campus only.
- 251 **Economic Development Theories** (3) Havrylyshyn, Smith
Basic theories of economic growth and development. Issues covered may include measurement of economic growth; industrialization of agrarian economies; income distribution, employment, and poverty; international trade policies; debt problems of developing countries. (Fall and spring)

- 252 **Economic Development Planning** (3) Havrylyshyn, S.
Theories and techniques of development planning and the experience in developing countries. Emphasis on tools of planning, particularly macro multisector models (including input-output, social accounting, linear programming, and computable general equilibrium models), and cost-benefit analysis in project appraisal. (Fall and spring)
- 255 **Economics of Technological Change** (3)
Economics of research and development; innovation and growth; the role of government in the development and use of new technology. (Spring)
- 257 **Regional Economics** (3)
Study of regional planning and growth models, including input-output, programming, and econometric models used by planning agencies; analysis of interregional production, trade, migration, firm location, and pricing models. (Fall)
- 258 **Urban Economics** (3)
Analysis of spatial relationships among economic activities within an urban area including the urban land, labor, and housing markets; urban transportation models; fiscal relationships among jurisdictions. Prerequisite: Econ 257 or permission of instructor. (Spring)
- 259 **Income Distribution** (3)
Theoretical and empirical analysis of income distribution; the sources of income inequality; evaluation of redistribution policies and their consequences. (Spring)
- 263 **Theory of Public Finance I** (3)
Allocation and distribution aspects of government budget policy, including critical analysis of expenditure theories and principles, and intergovernmental fiscal relations. (Fall)
- 264 **Theory of Public Finance II** (3)
Analysis of the effects of taxation on resource allocation and income distribution; impact of the public debt. (Spring)
- 267 **Seminar: Soviet Economy** (3)
An analysis of the Soviet economy. Issues discussed include growth strategy, investment and price policy, and foreign trade and aid strategy. Admission by permission of instructor. (Fall)
- 268 **Seminar: Economic Theory and Development in Communist Countries** (3)
An analysis of the application of Soviet-type growth models to Eastern Europe and the resulting reforms. Admission by permission of instructor. (Spring)
- 269 **Economy of the People's Republic of China I** (3)
Analysis of organization, operation, policies, and problems. Development of the economy since 1949. (Fall)
- 270 **Economy of the People's Republic of China II** (3)
Continuation of Econ 269, examining critical problems of development. Prerequisite: Econ 269 or permission of instructor. (Spring)
- 271 **Economy of Japan** (3)
Analysis of Japanese economic institutions and their contribution to Japanese development. (Fall)
- 275 **Econometrics I: Introduction** (3)
Single-equation models of economic behavior. Statistical methods for testing economic hypotheses and estimating parameters. Topics include heteroscedasticity, serial correlation, and lagged dependent variables. Prerequisite: Econ 123. Some exposure to matrix algebra is helpful, but not required. Same as Stat 275. (Fall and spring)
- 276 **Econometrics II: Simultaneous-Equation Models** (3)
Simultaneous-equation models of economic behavior. Optional topics are maximum-likelihood estimation, limited dependent variables, and quantal response models. Prerequisite: Econ 275. Recommended: a course in matrix algebra. Same as Stat 276. (Spring)

- 277 **Laboratory in Applied Econometrics** (3) Trost
Application of econometric theory. Use of econometric software. Each student will be required to write an empirical research paper. Prerequisite: Econ 275 or, with the permission of the instructor, Econ 123.
- 281-82 **International Trade Theory and International Finance** (3-3) Dunn, Moore, Pelzman, Suranovic
Econ 281: International trade theory, including alternative models of the gains from trade and evaluations of the new justifications for protectionism, and analysis of commercial policy, factor flows, and trade and investment with multinational corporations. Econ 282: International finance, including alternative models of balance of payments behavior and adjustment, payments accounting, exchange markets, and alternative exchange-rate regimes. Prerequisite: some sections may require calculus or permission of instructor. (Academic year)
- 283-84 **Survey of International Economics and Policy** (3-3) Dunn, Moore
For graduate students in fields other than economics. Econ 283: Survey of international economics and policy; application of comparative advantage and other arguments for trade; impact of trade on a domestic economy; new arguments for protectionism; regional trading blocs. Econ 284: International finance; balance of payments accounting; exchange markets; alternative models of balance of payments determination and adjustment; behavior of flexible exchange rate systems. (Econ 283 and 284—fall and spring)
- 285-86 **Economic Development of Latin America** (3-3) Flamm
Econ 285: Diversity of structures of Latin American economies; import substituting industrialization; inflation; problems of underemployment and income distribution. Econ 286: Structure of trade; protection, exports, and economic development; regional and global economic integration; foreign investment, multinational enterprise, and technology transfer. (Academic year)
- 287 **Seminar: Problems in Latin American Civilization** (3) Staff
Same as LAff 287.
- 290 **Principles of Demography** (3) Boulier
Introduction to basic demographic perspectives and data; methods for analysis of population size, distribution, and composition; determinants and consequences of population trends. Departmental prerequisite waived. Same as Geog/Soc/Stat 290. (Fall)
- 291 **Methods of Demographic Analysis** (3) Boulier
Basic methods for analysis of mortality, natality, and migration; population estimates and projections; estimation of demographic measures from incomplete data. Departmental prerequisite waived. Same as Geog/Soc/Stat 291. (Spring)
- 295 **Special Topics in Economics** (3) Staff
Topics vary, depending on current issues of interest and faculty availability. (Fall and spring)
- 298 **Reading and Research** (3)
Limited to master's degree candidates. (Fall and spring)
- 299-300 **Thesis Research** (3-3)
(Fall and spring)

Fourth Group

Fourth-group economics courses are limited to graduate students and are primarily for doctoral candidates. They are offered as the demand requires and may be repeated for credit with permission of the instructor.

- 305 **Seminar: Macroeconomics** (3) Bradley
Selected topics in macroeconomics. Prerequisite: Econ 205.
- 310 **Economic Methodology** (3) Goldfarb, Stewart
Methodology of economics, review of selected theoretical issues in economic theory. Prerequisite: six semester hours of graduate courses in economic theory.
- 312 **Seminar: Price Theory** (3) Staff
Selected topics in price theory.

- 315 **Seminar: Topics in Mathematical Economics** (3) H. Solomon, For. N
Intensive study of selected topics, including economic activity analysis, risk,
uncertainty, and other topics of current interest. Prerequisite: Econ 215-1
321 **Seminar: Monetary Theory** (3) Aschheim, Bradley
Recent developments in monetary theory.
341 **Seminar: Labor Economics** (3) Goldfarb
Current problems in theory and policy.
345 **Seminar: Industrial Organization** (3) Kwoh
Review of recent literature and current policy issues. Admission by permission
instructor.
348 **Topics in Health Economics** (3) Smith
Advanced topics in health economics. Prerequisite: Econ 248 or permission
instructor.
351 **Seminar: Economic Development** (3) Havrylyshyn, Smith
Analysis and review of recent theoretical work and/or selected topics of current
policy interest. Prerequisite: Econ 251 and 252 or permission of instructor.
363 **Seminar: Public Finance** (3) Cordes, Watson
Selected topics of current interest.
367 **Seminar: Soviet Planning in Theory and Practice** (3) Pelzman
Analysis and review of recent work on planning theory as applied to the Soviet
Union. Marxist ideology with modification is taken as the primary force shaping
the objective function of Soviet planners. Soviet economic performance is evalu-
ated based on this criterion. Prerequisite: Econ 203-4 and 267 or permission of
instructor.
378 **Seminar: Topics in Econometrics** (3) Swamy
Research seminar covering current econometric literature and special topics.
Admission by permission of instructor. Same as Stat 378.
390 **Seminar: International Economic Theory** (3) Dunn, Pelzman
Primarily for doctoral students. Examination of recent contributions in this field.
391 **Seminar: International Economic Policy** (3) Smith
Topics selected from current significant policy problems.
397 **Dissertation Proposal Seminar** (3) Smith
Limited to Doctor of Philosophy candidates in Unit II. Critical analysis of current
research. Formulation of a dissertation proposal and development of dissertation
research strategies.
398 **Advanced Reading and Research** (arr.)
Limited to students preparing for the Doctor of Philosophy general examination.
May be repeated for credit. (Fall and spring)
399 **Dissertation Research** (arr.)
Limited to Doctor of Philosophy candidates. May be repeated for credit.
and spring)

EDUCATIONAL LEADERSHIP

Professors M.N. Rashid, J.G. Boswell, D.A. Moore, F.J. Brown, S.R. Paratore, R. Ferrante, S.
Gleazer, Jr. (Visiting), M.A. Burns, G.W. Smith (Chair), J.A. Greenberg, J.D. Fife, D.
Holmes, L.D. Leonard, M. Worth, B. Wolfman
Adjunct Professors R.C. Rist, C. Gerhard, D. Iwamoto
Associate Professors D.M. Saunders, J.A. McDonald (Visiting)
Adjunct Associate Professor J. Grace
Assistant Professors W.F. Lynch, H. Willett (Visiting)
Adjunct Assistant Professor D. Niles
Instructor C.B. Stapp

See the School of Education and Human Development for programs of study leading
the degrees of Bachelor of Arts in Education and Human Development, Master of Arts
Education and Human Development, Master of Education, Master of Arts in Teaching
Education Specialist, and Doctor of Education.

First Group

- 100 **Special Workshop in Education and Human Development** (arr.) Staff
Topics to be announced in the *Schedule of Classes*. May be repeated for credit.
(Fall and spring)

Second Group

- 104 **Psychology for Learning and Teaching** (3) Gerhard
Principles, theory, nature, and course of learning and teaching processes. Examination and analysis of the strategies and dynamics of teaching and learning in behavioral settings. Three-hour fieldwork sessions. (Fall and spring)
- 112 **Measurement and Evaluation** (3) Staff
Basic evaluative measurement techniques: selection, administration, and interpretation of standardized tests; test construction, evaluation procedures, statistical analysis. (Fall and spring)
- 120 **Experimental Course in Education and Human Development** (arr.) Staff
Topic to be announced in the *Schedule of Classes*. May be repeated for credit provided the topic differs.
- 125 **Museums as Cultural and Educational Resources** (3) Staff
Use of the museum for knowledge and enjoyment; museum objects as primary sources; meetings in art, history, and science museums in the metropolitan area. (Fall and spring)
- 171 **Introduction to Human Development I** (3) Staff
Lectures and fieldwork. All aspects of development through adolescence; child study techniques. Two to three hours weekly field experience in appropriate setting. (Fall and spring)
- 172 **Introduction to Human Development II** (3) Staff
Adult development from young adulthood to old age. Dominant psychological, social, and physical competencies; motivational changes; coping styles; maladaptive behavior. Three hours weekly field experience in appropriate agency setting. (Fall and spring)
- 180 **Computer Literacy** (3) Lynch
An introduction to computing systems. Word-processing, desktop publishing, graphics, database management, spreadsheets, charting, programming, and communications software are introduced through reading, demonstrations, and hands-on activities in a microcomputer classroom. No previous computer experience required. May be taken for graduate credit. (Fall, spring, and summer)
- 187 **Sign Language and Deafness I** (3) Staff
Introduction to American Sign Language and to cultural aspects of the deaf community.
- 188 **Sign Language and Deafness II** (3) Staff
Development of conversational skills in American Sign Language and of cultural awareness of the deaf community. Prerequisite: Educ 187.
- 193-94 **Research and Independent Study** (arr.) Staff
Individual research under guidance of a staff member. (Academic year)
- 200 **Special Workshop in Education and Human Development** (arr.) Staff
Topics to be announced in the *Schedule of Classes*. May be repeated for credit.

Third Group

Departmental prerequisite: A degree from an accredited institution and adequate professional preparation are prerequisite to all third-group courses. With permission of the instructor, undergraduate students in their senior year may enroll in third-group courses.

- 201-2 **International Education** (3-3) Moore
A study of a selected sample of foreign education systems as they reflect culture, history, values, people, and current changes. Research techniques to develop a global frame of reference. International resources and resources unique to the Washington area are utilized. (Summer)

- 203-4 **Comparative Education** (3-3)
A systematic investigation of the educational structure and practices of selected representative school systems throughout the world. Emphasis on development of a methodology for comparative study. (Academic year)
- 205 **International Experiences** (1 to 6)
Travel to a foreign country for specific study and research. Admission by permission of the instructor.
- 206 **American Education: Introduction and Overview for International Students** (3)
The nature and organization of American education in a social, historical, and philosophical context; understanding contemporary change and how it is reflected in the education system.
- 207 **Instructional Materials, Media, and Resources** (3 to 6)
Review of technological contributions to education. Examination of current and emerging developments. Framework for study of selection, utilization, integration, and evaluation of audiovisual media in the teaching/learning process. (Summer)
- 208 **Human Development** (3)
Consideration of human development and behavior throughout the life span with emphasis on practical implications of relevant interdisciplinary research. (Fall and summer)
- 209 **Child Development** (3)
Interdisciplinary approach to child development and behavior. Practical implications of research in disciplines contributing to knowledge about childhood. (Fall)
- 210 **Adolescent Development** (3)
Interdisciplinary approach to adolescent development and behavior. Practical implications of research in disciplines contributing to knowledge about adolescence. (Spring)
- 211 **Computers in the Classroom** (3)
Fundamental microcomputer concepts and skills needed to use the computer in the classroom. Introduction of programming languages, general-purpose applications software, and educational software (courseware), together with important educational issues concerning their use in the classroom. Prerequisite: Educ 180. (Spring)
- 212 **Quantitative Methods I: Introduction to Survey Measurement and Research** (3)
Introduction to measurement techniques and evaluation. Emphasis on application and interpretation of data-gathering techniques and descriptive statistics. (Fall, spring, and summer)
- 213-14 **Western Educational Thought** (3-3)
Following the themes of certainty, equality, and progress, this course examines the ideas of selected philosophers in their historical context and relates them to education. Educ 213: From Sumer to the Enlightenment; Educ 214: From the Enlightenment to the present with concentration on the American experience. (Fall and spring)
- 216 **Advanced Study of the History of Education** (3)
Individually planned program of study on topic of student's interest. Prerequisite: Educ 213-14 or the equivalent.
- 217 **Advanced Study of the Philosophy of Education** (3)
Individually planned program of study on topic of student's interest. Prerequisite: Educ 213-14 or the equivalent.
- 218 **Social Foundations of Education** (3)
The relationship between school and society; social, economic, and political purposes of schooling as well as forces that shape policies and school curriculum. Contemporary issues and their implications for the future.
- 220 **Experimental Course in Education and Human Development** (arr.)
Topic to be announced in the *Schedule of Classes*. May be repeated for credit provided the topic differs.

- 222 **Museum Studies** (3) Stapp
Study of the museum's functions and its educational roles. Admission by permission of instructor. (Summer)
- 223 **Museum Audiences** (3) Staff
Study of diverse audiences of many ages who use and enjoy museums; appropriate museum and outreach practices. Admission by permission of instructor. (Fall)
- 224 **Communication Skills** (3) Staff
Theory of and practice in the development of communication skills in the museum. Educational concepts; teaching strategies and techniques; institutional liaison and group process. Admission by permission of the instructor. (Summer)
- 226 **Internship and Seminar in Museum Education** (6) Stapp
Four-day-a-week placement in education departments in area museums supervised by George Washington University faculty. On-campus seminar includes grant proposal writing. Admission by permission of instructor. (Spring)
- 227 **Museum Evaluation** (3) Staff
Evaluation and research methods appropriate to the museum setting. Review of research on museum audiences; designing program and exhibit evaluations. Admission by permission of instructor. (Summer)
- 228 **Selected Topics in International Education** (3) Moore
Investigation of historical development of international education; research on selected topics of general importance to the field of international education. Admission by permission of instructor. (Fall)
- 229 **Cross-Cultural Studies of Human Development** (3) Rashid
Theories of life-span development and of culture are the basis for the cross-cultural study of selected topics in human development. Prerequisite: Educ 208. (Fall)
- 230 **Managing Computer Applications** (3) Ferrante
For managers and prospective managers in education and human services who are concerned with the automation of their operations. Basic principles needed to design, implement, and manage an information system. Prerequisite: permission of instructor. (Spring and summer)
- 233 **Supervised Experience in Education and Human Development Services** (3 to 6) Staff
Fieldwork, internship, and instructional practice in higher education (Greenberg) or museum education (Stapp). Admission by permission of instructor. (Fall and spring)
- 240 **Proposal Writing** (3) Ferrante
The preparation of proposals for educational, business, and industrial applications, including those submitted for funding. Many styles and formats are illustrated. Each student will prepare a proposal in cooperation with an organization or agency. (Fall and summer)
- 242 **Fundamentals of Educational Administration** (3) Brown
Organization, structure, and governance of public education; federal, state, and local responsibilities. Basic administrative/leadership theory. Roles and functions of school administrators.
- 243 **Human Relations in Educational Management** (3) Saunders
Principles and practices in human relations for teachers, administrators, other school personnel, parents, and community leaders. Current theoretical and research findings; applications to social change; techniques of working with individuals and groups.
- 246 **Administrative Issues in Education** (3) Saunders
Administrative strategies and practices appropriate to problems in education.
- 248 **Supervision and Evaluation of Instruction** (3) Saunders
Study of interdisciplinary foundations of supervision. Special attention to the function of theory, change, individual and group relationships in organizations, staff influence processes, talent utilization, and evaluation of programs and staff. (Summer)

- 250 **Educating Language Minorities (3)**
A study of federal, state, and local policies and issues affecting the education of linguistically diverse populations. Resources for use with specific linguistically diverse groups. (Spring)
- 251 **Linguistic Applications in English as a Second Language (3)**
A study of the science of language and how its different branches (descriptive, social, applied, etc.) may be used for ESL teacher training, classroom instruction, material development, evaluation, research, and policy development.
- 252 **The English Sound System in English as a Second Language (3)**
A description of the phonological composition and variation of English as applied to instructional practices specifically oriented toward linguistically diverse groups. (Fall)
- 253 **The Structure of English in ESL Practice (3)**
A review of the morphological and syntactic characteristics of English, as related to instructional practices specifically oriented toward linguistically diverse groups. (Spring)
- 254 **Issues, Studies, and Practices in English as a Second Language (3)**
A critical review of scholarship and research findings in English as a second language. Major policy issues and implications that relate to ESL practice. (Summer)
- 259 **The Principalship, K-12 (3)**
A general introduction to the principalship. Administrative tasks and procedures are stressed, together with the principal's role in handling educational issues and problems.
- 260 **Supervision in the Elementary and Secondary School (3)**
For experienced teachers and administrators. Review of modern supervisory concepts, including practices in schools. Prerequisite: Educ 248.
- 261 **Practicum in Human Development (3)**
Open to human development majors with permission of instructor.
- 262 **Internship in Human Development (3)**
Open to human development majors with permission of instructor.
- 267 **Practicum in College Student Development (3 to 6)**
Supervised practical experience in college student development programs. Admission by permission of instructor. (Fall and spring)
- 268 **Power, Leadership, and Education (3)**
The nature of power, leadership, and education; the relationship of power and leadership; the essential nature of education in the exercise of power and leadership in a democratic setting. (Fall)
- 271 **Policy-Making for Public Education (3)**
The nature of educational policy; the role of single-interest groups, the courts, legislative bodies, administrative bureaucracies, and professionals in establishing parameters and allocating resources. Analysis of specific techniques of policy formation. (Summer)
- 272 **Educational Planning (3)**
An examination of the planning movement in education: its historical development and the recent shift in premises, context, and expectations. Different approaches to the planning process; its relationship to the concepts of systems, futurism; participatory, sectorial, and regional aspects; role of research; overview of main analytical techniques currently in use. (Fall)
- 273 **Foundations of College Student Development (3)**
College student development theories, practices, and problems, including historical overview and human development theories related to college students. (Fall)
- 274 **Group and Organizational Theories (3)**
Focus on theorists, including Argyris, Blau, Miles, Festinger, and Lewin. Practical application of theories to various organizational settings and individuals. Prerequisite: permission of instructor. (Spring)
- 275 **School Finance (3)**
Issues in financial support of public education. Local, state, and federal roles. Budget development and administration.

- 276 **Public Relations in School Administration** (3) Staff
The function, purposes, and resources of school public relations. Development of skills in planning public relations programs and activities. Theory and practice of effective communication.
- 277 **Dynamics of Change** (3) Boswell
An analysis of the process of change, particularly as it relates to educational policy. Comparison of theories; analytical tools; historical precedents; examples of federal educational policies.
- 278 **School Law** (3) Saunders
Constitutional and statutory provisions for public school education; origin and legal status of the local school unit; nature of the school board; legal status of teachers and administrators; legal rights and responsibilities of parents and pupils. (Spring)
- 279 **Practicum in Supervision** (3 to 6) Saunders
Practical experience in supervision of instruction. Admission by permission of instructor. (Fall and spring)
- 280 **Internship: Supervision** (3 to 6) Saunders
Service in a school situation directed by the University's faculty and school systems; integration of theory and practice. (Fall and spring)
- 281 **Program Evaluation: Theory and Practice** (3) Holmes
A general introduction to the theory of evaluation of social programs. Overview of evaluation models, methodology associated with program evaluation, and examination of evaluation in the context of political and social environments. (Fall)
- 282 **Administration of College Student Development Services and Programs** (3) Burns
An overview of student affairs administrative practices, including needs assessment, planning models, budgeting, policy development, program development, facility management, evaluation, and team building. Admission by permission of instructor. (Fall)
- 283 **Higher Education in the United States** (3) Burns, Greenberg
History, scope, purpose, present status, programs, and trends in higher education in the United States. (Fall and spring)
- 284 **Administration of Higher Education** (3) Burns, Ferrante, Fife
Government, organization, and administration of colleges and universities; duties of trustees and administrators. (Fall and spring)
- 285 **Education and National Development** (3) Boswell
Examination of the basic assumption that education contributes to national development. In addition to economic growth and civic identity, what constitutes national development in advanced industrial societies and societies moving to industrialism? What role does education play in promoting this process? (Fall)
- 286 **Interpretation in the Historic House Museum** (3) Stapp
Same as AmCv 286. Seminar integrating advanced practices of museum education with current scholarship in architectural history, material culture, social history, and women's studies. Extensive use of Washington museum resources. Open to undergraduate and graduate students. (Fall)
- 292 **Practicum in Program Evaluation** (3 to 6) Holmes
Supervised practical experience in field placements. Admission by permission of instructor. (Fall and spring)
- 293-94 **Research and Independent Study** (1 to 3) Staff
Individual research under guidance of a staff member. Program and conferences arranged with an instructor. (Academic year)
- 295 **Quantitative Methods II: Research Procedures** (3) Paratore, Smith, Holmes
Required of all candidates for master's degrees in education. Analysis of scientific approaches to problems in education; evaluation of research techniques. Prerequisite: Educ 112, 212; or equivalent. (Fall and spring)
- 299-300 **Thesis Research** (3-3) Staff

Fourth Group

301 **Advanced Study: Ideas, Issues, and Practices in Education** (3)

For precandidates for the Ed.D. Alternative means of responding to the complexities of the educational process. Topics vary but concern education as an individual process and as sociocultural preservation and renewal.

302 **Quantitative Methods III: Inferential Techniques** (3)

Holmes, Paratore, S

Educ 302 or Stat 105 is required of all doctoral students in education. Prerequisite: Educ 212 or a basic statistics course and permission of instructor. (Fall and spring)

303 **Data Analysis** (3 to 6)

Use of computer in data analysis. For doctoral students at the dissertation planning stage. (Fall and spring)

306 **Quantitative Methods IV:**

Holmes, Paratore, S

Advanced Research Design (3)

Required of all doctoral students in education. Evaluation and application of educational research designs. Prerequisite: Educ 302 or equivalent. (Fall and spring)

307 **Qualitative Research Methods** (3)

Holmes and S

A general introduction to qualitative research procedures in social science research. Application of qualitative methods, design, analysis. (Fall)

329 **Seminar in Program Evaluation** (3)

Contemporary problems and issues in evaluation of social programs: design, implementation, analysis, and utilization. (Spring)

330 **Educational Facilities Planning** (3)

(Formerly Educ 291)

Principles of school plant planning; site selection; evaluation of existing buildings; adaptation to curricular needs; building operation and maintenance; disposition of surplus facilities; energy and accessibility considerations.

331 **Personnel Administration** (3)

(Formerly Educ 297)

Organization and administration of personnel programs for educational institutions. Basic philosophy, principles, responsibilities, and functions; current issues.

334 **Doctoral Internship in Educational Policy** (3 to 6)

Supervised internship in education or human services settings for advanced doctoral students.

340 **Methods of Policy Analysis in Education** (3)

Holmes, S

Modes of analysis employed in the study of educational policy issues. Alternative methods of analysis for policy formation, implementation, and impact assessment. Both theoretical and case study materials are used. Prerequisite: Educ 295. (Fall and spring)

341 **Cognitive Models and Instruction** (3)

Cognitive models (Guilford, Bruner, etc.) are analyzed as the theoretical basis for planning instructional episodes appropriate at various levels—childhood through adulthood. (Fall)

342 **Language Development** (3)

Nature of language acquisition and development; emphasis on sociolinguistics and psycholinguistics most pertinent to education. (Spring)

343 **Advanced Studies in Human Development** (3)

Review and consideration of empirical research studies on selected topics in human development. Issues, instrumentation, and research needs in respect to each topic discussed. Admission by permission of instructor. (Spring)

344 **Adult Development and Aging** (3)

Theories and research on personality and cognition in adulthood and old age. Emphasis on evaluating research designs and methods and deriving implications.

- of findings for gerontological programs and selected professional roles.
(Spring)
- 345 **Advanced Studies in Educational Policy Analysis** (arr.) Holmes
- 352 **Seminar: Western Educational Thought** (arr.) Boswell
- 353 **Seminar: Higher Education Administration** (arr.) Greenberg, Ferrante, Gleazer
- 354 **Seminar: Administration and Supervision** (arr.) Saunders
- 355 **Seminar: Applied Educational Administration** (3 to 6) Saunders
Application of the theories and principles of administration to public and private schools. Field experience in a phase of administration and supervision. Admission by permission of instructor. (Fall and spring)
- 356 **Seminar: Human Development** (arr.) Rashid
- 369 **School Business Management** (3) Staff
(Formerly Educ 269)
Philosophy, responsibilities, and functions of school business management.
- 372 **Internship in Higher Education** (3 to 6) Greenberg and Staff
Supervised experiences in selected areas in college teaching. Admission by permission of instructor. (Spring)
- 373 **The Community/Junior College** (3) Greenberg, Gleazer
The two-year college as it relates to secondary education, four-year colleges, and universities. Objectives, curricula, students, faculty, legal concerns, and special problems of two-year colleges. (Fall and spring)
- 374 **Current Issues in Higher Education** (3) Ferrante
Prerequisite: Educ 283, 284. (Spring)
- 378 **Financing Higher Education** (3) Staff
Analysis of private, state, and federal revenue sources; student aid, program budgets, and financial methods and practices. (Spring)
- 379 **Administration and Governance of Two-Year Colleges** (3) Greenberg, Ferrante
A study of the community/junior college, focusing on administrative patterns and national, regional, state, and local influences, as well as the theory and structure of two-year college organization. (Fall and spring)
- 380 **Legal Problems in Higher Education** (3) Fife
Investigation of legal problems in higher education related to the legal structure of higher education, religious concerns, students, faculty, and academic programs. (Spring)
- 381 **College and University Curriculum** (3) Fife
Development, patterns, creative design, issues, problems, evaluation, and trends in the higher education curriculum. (Fall)
- 382 **Teaching Strategies for Adult Learners** (3) Greenberg
Designing, implementing, and evaluating instructional strategies for adult learners. Assessing needs, writing objectives, selecting curriculum/content, selecting and implementing methods and techniques, selecting appropriate mediating devices, and evaluating instruction. (Spring)
- 384 **College and University Governance** (3) Ferrante
Organizational and administrative structures, patterns, and relationships in higher education. Prerequisite: Educ 284. (Fall)
- 385 **Problems and Practices in Educational Administrative Organization** (3 to 6) Ferrante, Fife, Greenberg
Application of principles and practices concerned with change and evaluation of educational administration.
- 386 **Internship: Higher Education Administration** (3 to 6) Greenberg
Service in a higher education situation directed by the University and the cooperating institution to integrate theory and practice. (Fall and spring)
- 387 **Internship: Administration** (3 to 6) Brown, Saunders
Service in an educational institution or education-related program directed by the University's faculty. (Fall and spring)
- 388 **Case Studies in Higher Education Administration** (3) Ferrante
An analysis of case studies related to administrative functions in colleges and universities.

390 Pre-Dissertation Seminar (3 to 6)

Required of all Ed.D. degree candidates. Approval of the dissertation research design is necessary for successful completion of the seminar. Admission by permission of instructor.

391 Dissertation Research (arr.)

Prerequisite: Educ 390.

ENGLISH

Professors R.N. Ganz, Jr., J.H. Maddox, A.E. Claeysens, Jr., G. Paster, J.A.A. Plotz, Quitslund, C.W. Sten (Chair), D. McAleavey, C. Tate
Associate Professors R.C. Rutledge, G.R. Bozzini, R.L. Combs, O.A. Seavey, G. Carter
Associate Professorial Lecturer E.R. Garner
Assistant Professors A. Romines, M.V. Dow, M.S. Soltan, K. Moreland, J.L. Porten, Sponsler, F. Moskowitz, T.G. Wallace, M. Alcorn, M.D. Clair, D. Scarboro, S.P. Williams (Visiting), J. Mancini (Visiting), S.C. Haedicke (Visiting), D.M. Carter (Visiting), N. Whichard (Visiting), A.S. Nissen (Visiting)
Assistant Professorial Lecturers E.T. McClay, K.L. Levenback
Lecturers J. Bolz, D.A. Bruno, J.C. Carlberg
Jenny McKean Moore Writer in Washington J. Shore

Bachelor of Arts with a major in English—The following requirements must be fulfilled:

1. The general requirements stated under Columbian College of Arts and Sciences.
2. Prerequisite courses—Engl 51–52 or 61–62 or 71–72.
3. Required courses in related areas—(a) 12 semester hours or equivalent of Greek, Latin, Hebrew, French, German, Italian, Russian, or Spanish language study at the college level; (b) 6 semester hours of philosophy, religion, and/or mythology; (c) 6 semester hours of history (English, American, European, or world).
4. Required for the major—Engl 120 and 27 semester hours of second-group courses, which no more than 6 hours may be taken in creative writing or composition, including at least one course from each of the following categories:
 1. Major authors (Engl 112, 127, 128, 130, 171).
 2. British and American literature before 1800 (Engl 112, 113, 125, 130, 131, 132, 155, 160).
 3. 19th-century British and American literature (Engl 133, 134, 135, 136, 154, 161, 163, 167).
 4. 20th-century British and American literature (Engl 137, 138, 139, 140, 157, 158, 165, 166, 168, 177, 178).

With departmental approval, courses with appropriate subject matter may be taken in place of those specified above. Students take 15 additional hours of second-group courses of which 6 may be in literature in a foreign language.

Students wishing to concentrate their course work on the study of American literature should take Engl 160 and two courses on the 19th century (either 161 and 162 or 163 and 167); at least one second-group course in English literature; and 15 additional hours of second-group courses in the department, of which at least 9 should be in American literature.

Minor in literature in English—15 hours of second-group literature courses, chosen in consultation with an advisor in the department.

Minor in creative writing—Engl 81, 6 hours of introductory literature (e.g., Engl 51–52) and 12 hours of second-group courses offered by the department, of which at least 9 must be in creative writing.

Master of Arts in the field of American literature or Master of Arts in the field of English literature—Prerequisite: a Bachelor of Arts degree with an undergraduate major in English or American literature, or 24 semester hours in English or American literature above the sophomore level.

Required: the general requirements stated under the Graduate School of Arts and Sciences, including (1) 24 semester hours of course work planned in consultation with

department advisor; (2) Level One proficiency (translation of a passage with a dictionary) in an approved foreign language (French, German, Italian, Spanish, Greek, or Latin); (3) a Master's Comprehensive Examination in American or English literature; and (4) either a master's thesis (6 semester hours) on an approved topic, directed by a member of the department's graduate faculty, or, with the approval of the department's director of graduate studies, 12 additional semester hours of course work in lieu of the thesis. Students must maintain a quality-point index of at least 3.25.

Doctor of Philosophy in the field of American literature or Doctor of Philosophy in the field of English literature—Prerequisite: a Bachelor of Arts degree with an undergraduate major in English or American literature, or 24 semester hours in English or American literature above the sophomore level.

Required: the general requirements stated under the Graduate School of Arts and Sciences, including satisfactory completion of (1) 72 semester hours of course work (48 for students with M.A. degrees in English) planned in consultation with the department advisor; (2) Level Two proficiency (translation of a passage without a dictionary) in an approved foreign language, or Level One proficiency (translation with a dictionary) in two qualifying foreign languages (French, German, Italian, Spanish, Greek, or Latin); (3) a feasible examination in American literature or English literature (to be taken as soon as possible within the student's first 24 hours of course work) and a period or genre examination in the intended field of the dissertation; (4) a dissertation on an approved topic, directed by a member of the department's graduate faculty and approved by an examining committee.

Each student plans a program of studies in consultation with the department advisor and a committee of the graduate faculty. Students must maintain a quality-point index of at least 3.25. The fields for the period examination are English Medieval: beginnings to 1500; English Renaissance: 1500–1660; English 18th Century: 1660–1800; Early American: beginnings to 1815; 19th-Century English and/or American: 1800–1900; and 20th-Century English and/or American: 1900 to the present. The fields for the genre examination are drama, prose fiction, poetry, and criticism.

Departmental prerequisite: Engl 9 or 10 is prerequisite to all other courses in English. A 6-semester-hour course in literature, or equivalent, or permission of the instructor, is prerequisite for admission to all second-group courses in English except Engl 115, 160, 161, and 162.

Scores on the College Board English Composition Achievement Test, the Test of Standard Written English, or the English component of the American College Testing battery determine placement in Engl 9 or 10 and eligibility to waive the requirement, according to the following schedule:

Achievement Test		TSWE		ACT	Placement
650 and above	or	58 and above	or	28 and above	Waives Engl 10
500–649	or	40–57	or	20–27	Engl 10
499 and below	or	39 and below	or	19 and below	Engl 9

The admission of international students to any English course is determined by the EFL Placement Test. Students should apply to the office of English for International Students to take this test (see Students from Foreign Institutions, under Admissions).

EXPOSITORY WRITING

First Group

9 English Composition: Language as Communication (3) Willens and Staff
Includes content of Engl 10; offers the advantage of more intensive work on analytical reading and on fluency and control in the writing process. Class meets five hours per week. Special fee, \$25. (Fall and spring)

- 10 English Composition: Language as Communication (3)** Willens and S
Critical examination of what language can do and what student writers can do with language; analysis of various kinds of discourse, focusing on their pragmatic and psychological dimensions. Emphasis on the writing process, with guidance in revising toward clear, effective, and engaging prose. (Fall and spring)
- 11 English Composition: Language and the Arts and Sciences (3)** Willens and S
Prepares the student to participate critically in the diverse, interpretative community of the university. Provides training in the analysis of literary and nonliterary texts, with emphasis on logic, values, and context. Focuses primarily on the polemic nature of writing and thought. Texts and course topics vary by section to section. Prerequisite: Engl 9 or 10. Students who receive credit for Engl 11 cannot receive credit for Engl 13. (Fall and spring)
- 13 English Composition: Language and Ideas (3)**
Study and practice of expository and argumentative techniques; emphasis on rhetorical problems raised by various intellectual disciplines and historical milieus. A substantial research paper is required. Prerequisite: Engl 9 or 10. Taken only in conjunction with Hmn 1. Students who receive credit for Engl 11 cannot receive credit for Engl 13. (Fall and spring)
- 20 The Writing of Reports (3)**
Theory and practice in the writing of technical reports. Prerequisite: Engl 11. Offered off campus only.

Second Group

- 101 Advanced Writing (3)** McClay and S
Individualized instruction and frequent conferences; writing projects vary with each student according to needs and interests. Emphasis on developing professional work habits. Prerequisite: Engl 11 or 13, or written permission of instructor. Class size limited to 15 students. (Fall and spring)
- 102 Written Communications in Accounting (3)** Bozzini and S
Analysis of communications by accountants and managers; frequent assignments, with emphasis on effective form and language in memoranda, letters, reports. Major in accountancy not required. Prerequisite: Engl 11 or 13. Junior status. Class size limited to 15 students. (Fall and spring)
- 109 Expository Writing for the Professions (3)**
Weekly exercises based on students' individual needs; particular attention to problems in writing for technically sophisticated readers. Selected readings. Offered off campus only.
- 110 Writing in Engineering and the Sciences (3)**
Study of writings by engineers and scientists who have considered the implications of technology in the modern world. Concurrently, study and practice of communication skills needed for careers in engineering and the sciences. Prerequisite: Engl 9 or 10 or EFL 50; junior, senior, or graduate status. Material fee. (Spring)
- 111 Preparation for Peer Tutors in Writing (3)** More
For undergraduates accepted as tutors in the Writing Center: study and practice of techniques for prewriting, writing, and revision; readings on collaborative learning, the composing process, composition theory, critical thinking, and teaching of writing; observation and exercises in writing, peer review, and tutoring. (Fall)

Third Group

- 201 Theories of Rhetoric and the Teaching of Writing (3)** Dow, P
Brief historical account of the development of Western rhetoric; reading and discussion of current theories of the teaching of writing and in related fields of linguistics, philosophy, and cognitive psychology; exploration of the writing process.

ting across the curriculum, and use of computers in writing and teaching; supervised experience in the classroom and Writing Center; weekly writing assignments. Open to qualified seniors. (Fall)

CREATIVE WRITING

With the exception of Engl 181, creative writing courses may not be repeated for credit.

First Group

- 81 **Introduction to Creative Writing** (3) Moskowitz and Staff
An exploration of genres of creative writing (fiction, poetry, and/or playwriting). Basic problems and techniques; examples of modern approaches; weekly writing assignments; workshop and/or conference discussion of student writing. Prerequisite: Completion of English composition requirement. Limited to 18 students. Material fee, \$5. (Fall and spring)

Second Group

- 103 **Intermediate Fiction I** (3) Moskowitz and Staff
The writing of fiction. Prerequisite: Engl 81 or equivalent and a two-semester literature survey (e.g., Engl 51–52 or equivalent). Limited to 15 students. Material fee, \$5. (Fall)
- 104 **Intermediate Poetry I** (3) McAleavey, Clair, Bolz
The writing of poetry. Prerequisite: Engl 81 or equivalent and a two-semester literature survey (e.g., Engl 51–52 or equivalent). Limited to 15 students. Material fee, \$5. (Fall)
- 105 **Intermediate Playwriting I** (3) Claeysens
Same as TrDa 105. The writing of plays. Prerequisite: Engl 81 or equivalent and a two-semester literature survey (e.g., Engl 51–52 or equivalent). Limited to 15 students. (Fall)
- 106 **Intermediate Fiction II** (3) Claeysens, Moskowitz
The writing of fiction. Prerequisite: Engl 103 or equivalent. Limited to 15 students. Material fee, \$5. (Spring)
- 107 **Intermediate Poetry II** (3) McAleavey, Bolz, Clair
The writing of poetry. Prerequisite: Engl 104 or equivalent. Limited to 15 students. Material fee, \$5. (Spring)
- 108 **Intermediate Playwriting II** (3) Claeysens
Same as TrDa 108. The writing of plays. Prerequisite: Engl 105 or equivalent. Limited to 15 students. (Spring)
- 181 **Creative Writing Workshop** (3) TBA
Taught by the Jenny McKean Moore Writer in Washington; open to undergraduates and graduate students. Prerequisite: Engl 81 or equivalent; consent of instructor. Writing sample to be submitted before registration. May be repeated for credit, if taught by a different instructor. Limited to 18 students. Material fee, \$5. (Fall and spring)

ENGLISH AND AMERICAN LITERATURE

First Group

- 51–52 **Introduction to English Literature** (3–3) Paster, Plotz, and Staff
Representative works by major authors studied in their historical context; discussion of recurrent themes and introduction to various types and forms of imaginative literature. Engl 51: Middle Ages through the 18th century. Engl 52: 19th and 20th centuries. (Academic year)
- 61 **Tragedy** (3) Carter, Paster
Modes of tragedy as developed in drama, nondramatic verse, and prose fiction in literature from ancient to modern times—Book of Job to Beckett.

62 **Comedy** (3)

Modes of comedy as developed in drama, nondramatic verse, and prose fiction—Chaucer to Borges.

71–72 **Introduction to American Literature** (3–3)

Ganz, Combs, and St

Historical survey. Engl 71: From early American writing through Melville, Whitman, and Dickinson. Engl 72: From Twain, James, and Crane to the present (Academic year)

Second Group112 **Chaucer** (3)

Chaucer's major works seen as exciting, lively texts from the modern perspective and as products of specific economic, social, and cultural trends of the late 14th century. Focus on *The Canterbury Tales*, read in the original Middle English (Fall)

113 **Medieval Literature** (3)

Readings from a wide range of medieval genres, including romances, saints' legends, mystical narratives, lyrics, civic drama, and social satires, to explore some of the principal concerns of medieval culture. How these texts responded to and shaped the changing patterns of medieval culture, as various social groups—the clergy, the aristocracy, the urban bourgeoisie—attempted to define a culture of their own.

115 **History of the English Language** (3)

A sociolinguistic approach to the history of the English language. The development of the language from Proto-Indo-European through Anglo-Saxon and Middle English; how the various dialects of modern English were shaped and how a normative "standard" English was established. Emphasis on the social context and cultural implications of these changes.

120 **Critical Methods** (3)

The topics and techniques of literary analysis, applied to English and American poetry, prose fiction, and drama. Attention to prosody, stylistic and structural analysis, narratology, and critical theory applied to specific literary texts.

123 **Approaches to Interpretation of Literary Texts** (3)

Historical study of poetics and interpretation, from the classical tradition (Aristotle, Sidney, Johnson) and Romanticism (Wordsworth, Coleridge, Shelley) to the modern era (Arnold, Eliot, Ortega y Gasset) and some contemporary critics (e.g., Bloom, Derrida).

125 **The English Renaissance** (3)

Verse and prose, chiefly from the period 1575–1625, seen in relation to contemporary culture and the social institutions that shaped the development of English culture. Sidney, Spenser, Shakespeare, Campion, Donne, Jonson, Bacon, Herbert, and others; emphasis on the development of several literary styles and on adaptation of genres to suit changes in private and social experience.

127–28 **Shakespeare** (3–3)

Close study of seven or eight plays each semester, with emphasis on the texts in history and ideology. Survey of current critical practices (feminist, materialist, psychoanalytic) and deconstruction of Shakespeare as a cultural institution. (Academic year)

130 **Milton** (3)

Study of the major works in verse and prose, following the course of Milton's career. (Spring)

131–32 **The 18th Century: Literature and Authority** (3–3)

Readings in significant 18th-century English writers—Dryden, Swift, Pope, Johnson, and others—with emphasis on tracing the ways in which literary texts contain, perpetuate, and subvert social and political ideologies. (Academic year)

133–34 **The Romantic Movement** (3–3)

Major figures and topics in English and Continental romanticism. Engl 133: Blake, Wordsworth, Coleridge, Lamb, and others. Engl 134: Byron, Shelley, Keats, Hazlitt, DeQuincey, and others. (Engl 133–fall)

- 135-36 **Victorian Literature** (3-3) Carter
Engl 135: 1830-1865—E. Brontë, Dickens; Tennyson, Browning, Arnold; Darwin, Carlyle, Ruskin. Engl 136: 1865-1900—Eliot, Hardy, Conrad; Swinburne, the Rossettis, Morris; Pater, Wilde, the Nineties. (Engl 135—fall)
- 137-38 **Modernism and Anti-Modernism** (3-3) Maddox, Soltan
The cataclysmic change that occurred in the West early in the 20th century, involving the massive undoing of virtually all traditional forms of art and life. Engl 137: the emergence of modernist experimentation (and the sense of epistemological and moral crisis it expressed) in the poetry and prose of Pound, T.S. Eliot, Woolf, Kafka, and others. Engl 138: the reaction against modernist styles and themes in the wake of World War II, as seen in the work of Orwell, Amis, Lessing, Tournier, Larkin, and others. (Academic year)
- 139-40 **20th-Century Irish Literature** (3-3) Maddox
Irish writers from the time of the Literary Revival in the late 19th century to the present. Engl 139: Yeats and other Irish poets and playwrights of his time and after—Synge, O'Casey, Kavanagh, Heaney, and others. Engl 140: Joyce through Ulysses and other fiction writers of later generations—O'Brien, Beckett, and others. (Academic year)
- 153-54 **The English Novel** (3-3) Maddox, Soltan, Wallace
Engl 153: The 18th century—Defoe, Richardson, Fielding, Sterne, and others. Engl 154: The 19th century—Austen, the Brontës, Dickens, George Eliot, Hardy, and others. (Academic year)
- 155-56 **The English Drama** (3-3) Paster, Haedicke
Engl 155: Shakespeare's contemporaries. Engl 156: Historical survey, 1660 to present. (Engl 155—fall)
- 157 **20th-Century Drama** (3) Paster, Haedicke
Representative continental, English, and American plays of the 20th century.
- 160 **Early American Literature and Culture** (3) Seavey
The shaping of America's early literary and cultural traditions as shown by significant writers of the Colonial and Early National periods: Bradstreet, Cotton Mather, Edwards, Franklin, Crèvecoeur, and others. Same as AmCv 160. (Fall)
- 161 **American Romanticism** (3) Sten
The shaping of America's literary and cultural traditions as shown by significant writers of the Romantic period: Poe, Emerson, Hawthorne, Melville, Thoreau, Whitman, Dickinson, and others. Same as AmCv 161. (Spring)
- 162 **American Realism** (3) Romines
The shaping of America's literary and cultural traditions as shown by significant writers of the Realist period: Twain, James, Crane, Howells, Wharton, Chopin, Robinson, and others. Same as AmCv 162. (Fall)
- 163-64 **American Poetry** (3-3) Ganz, Combs, McAleavey
Close examination of major American poems. Engl 163: From the beginnings through the early 20th century: works by Bradstreet, Taylor, Poe, Emerson, Whitman, Dickinson, Robinson, Frost, and others. Engl 164: The 20th-century modernist poets: Stevens, Pound, Williams, Eliot, Ransom, Cummings, Crane, and others. (Academic year)
- 165-66 **American Drama** (3-3) Combs, Claeysens, McClay
Historical and critical study of significant plays and forms. Engl 165: The life and works of Eugene O'Neill and the dramatic techniques of Ibsen, Chekhov, and Strindberg that helped to shape 20th-century American drama; biographical and critical readings included. Engl 166: Significant and representative works of American theater, 1935-1982, including plays by Clifford Odets, Lillian Hellman, William Saroyan, Thornton Wilder, Arthur Miller, William Inge, Tennessee Williams, Eugene O'Neill, Carson McCullers, and Lorraine Hansberry, and outstanding examples of musical comedy. (Academic year)
- 167-68 **The American Novel** (3-3) Maddox, Seavey, Moreland
Historical and critical study of major works in the American novelistic tradition. Engl 167: From beginnings through the 19th century: Hawthorne, Melville, James, Twain, Dreiser, and others. Engl 168: The 20th century: Wharton, Cather,

Anderson, Hemingway, Fitzgerald, Faulkner, Wright, R.P. Warren, Nabokov, and others. (Academic year)

170 The Short Story (3)

An extensive survey of short fiction by a wide variety of writers of the 19th and 20th centuries, about half of them American; readings on the art of the short story by writers and literary critics included. (Spring)

171 Major Authors (3)

In-depth studies of two or three authors (of British, American, or other nationality) who have written in English. Topics announced in the *Schedule of Classes*; may be repeated for credit provided the topic differs.

172 Selected Topics in Literature (3)

Topics announced in the *Schedule of Classes*; may be repeated for credit provided the topic differs. Topics of projected courses include Jewish-American fiction; children's literature; southern literature; science fiction; literature and politics; literature and philosophy; Freud, Dostoevsky, and Shakespeare; literature of the Holocaust.

174 Afro-American Literature (3)

Study of texts representing the experiences of black Americans and the ideas and social forces that have shaped their lives and writings. Same as AmCv 174 (Fall)

177-78 Contemporary American Literature (3-3)

Major and representative works, 1946-1980. Engl 177: poetry, fiction, and non-fiction by Flannery O'Connor, Ginsberg, Kerouac, Rich, Lowell, Plath, Mailer, Roethke, Baraka, Berryman, Ashbery, and others. Engl 178: essay, short story, and novel: Robert Penn Warren, J.D. Salinger, James Agee, E.B. White, Cheever, Nabokov, Welty, Wilder, Tillie Olsen, Bellow, John McPhee, and others. (Academic year)

182 A Writer's Perspective on Literature (3)

Study of a literary topic, from the point of view of the Jenny McKean Moore Writer in Washington. May be repeated for credit. (Spring)

183 Individualism, Reason, and Tradition in Early Modern Europe (3)

Same as Fren/Ger/Hist/Rel 183 and Art 187.

195-96 Honors Seminar (3-3)

Genre and genre theory; literature as cultural artifact and as instrument of cultural criticism; various critical approaches—ideological, historical, and ahistorical. Open only to second-semester junior and first-semester senior honors candidates in English. (Engl 195: spring; Engl 196: fall)

197 Independent Study (3)

For exceptional students whose academic objectives are not accommodated in regular courses. Students must obtain the chair's approval and arrange for supervision by an appropriate member of the department. (Fall and spring)

198 Honors Thesis (3)

Under the guidance of an instructor, the student writes a thesis on an approved topic. Open only to senior honors candidates in English. (Fall and spring)

Third Group

212 Studies in Chaucer (3)

A view of Chaucer's works as responding to pressing epistemological, social, and moral crises of the late medieval period and, at the same time, as presenting readers with seemingly irresolvable problems of interpretation.

219 Introduction to Graduate Studies in English (3)

For all candidates for M.A. and Ph.D. degrees in American or English literature. Introduction to the scope and methods of advanced literary studies; readings, research problems, and instruction designed to acquaint students with available aids to research. (Fall)

- 223 **Contemporary Literary Theory** (3) Carter, Soltan
Inquiry into the nature of literary texts and interpretive strategies. Close readings of texts (by Barthes, Derrida, de Man, Bloom, Eagleton, Fish, Kermode, and others) exemplifying the ferment of recent theoretical writing about literature. (Fall)
- 226 **Studies in Renaissance Verse and Prose** (3) Quitslund, Paster
Investigation of broad topics central to literature of the Renaissance (e.g., development of the lyric, heroic poetry and romance, literature and the court), with primary attention to English texts and some attention to classical and continental contexts.
- 227-28 **Studies in Shakespeare and his Contemporaries** (3-3) Paster
Specialized studies of Elizabethan and Jacobean drama, considered in its cultural context, with emphasis on Shakespeare.
- 230 **Studies in Milton** (3) Staff
(Fall)
- 232 **Studies in English Literature, 1660-1780** (3) Wallace
233-34 **Studies in the Romantic Movement** (3-3) Plotz
Intensive and contextual consideration of English Romantic writers, themes, genres. Topics will vary: e.g., Byron and Romantic irony, Wordsworth and Keats, defining Romanticism, Romanticism and childhood.
- 235 **Studies in Victorian Poetry** (3) Carter
Investigation of various ways in which the major Victorian poets depended upon and departed from the achievements of precursors among the Romantics and earlier poets.
- 236 **Studies in Victorian Prose** (3) Carter
Study of seminal writings by such authors as Carlyle, Mill, Arnold, Newman, Darwin, and Pater, with attention to both their intrinsic merit and the light they throw on Victorian poetry and fiction.
- 237-38 **Studies in 20th-Century Literature** (3-3) Soltan
(Engl 238—fall)
- 251 **Women, Literature, and the Arts** (3) Romines, Tate
Same as WStu 251.
- 253-54 **Seminar: The English Novel** (3-3) Maddox, Soltan
Investigation of various topics concerning the development of the genre, 18th to 20th centuries: e.g., themes and form in 18th-century fiction; emergence of circumstantial realism; mentors and lovers in 19th-century novels; the revolution in fictional forms circa 1900.
- 263-64 **Seminar: American Poetry** (3-3) Ganz, McAleavey
American poets and critics of poetry.
- 267-68 **Seminar: American Fiction** (3-3) Sten, Tate
Investigation of various topics pertinent to the American novel and short fiction, primarily of the 20th century (e.g., Faulkner, experimental fiction, writers of the Midwest).
- 282 **Seminar: Early American Literature** (3) Seavey
(Spring)
- 283-84 **Seminar: American Romanticism** (3-3) Sten
Engl 283: American Romance writers: Melville, Hawthorne, Poe, and others. Engl 284: American Transcendentalist poetry: Emerson, Whitman, Dickinson, and others.
- 285-86 **Seminar: American Realism, 1865-1915** (3-3) Romines
Realistic fiction in various contexts—literary, intellectual, cultural. Major authors, such as James, Twain, Howells, and Wharton, are included, along with other writers, such as Jewett, Chopin, Norris, and Adams. Topics vary: e.g., the autobiographical impulse, influence of French fiction and criticism, the importance of "place," the significance of gender.
- 287 **O'Neill and Modern American Drama** (3) Combs
Study of the career of Eugene O'Neill and his impact on the development of modern theater in America; readings in biography and criticism. (Fall)

295 Independent Research (3)

Written permission of instructor required. May be repeated for credit to a maximum of 9 hours.

299-300 Thesis Research (3-3)

(Fall and spring)

Fourth Group

George Washington University is a member of the Folger Institute of Renaissance and 18th-century Studies. Institute policies are set by a central committee on which each member institution is represented. Doctoral students enrolled in one of the Institute seminars are eligible to apply for fellowship aid. Folger Institute Seminars are numbered 301-14. Students wishing to register for these courses should consult the chair of the English Department.

301-14 Folger Institute Seminars (3 each)

Topics will be announced in the *Schedule of Classes*. May be repeated for credit provided the topic differs.

398 Advanced Reading and Research (arr.)

Limited to students preparing for the Doctor of Philosophy general examination. May be repeated for credit. (Fall and spring)

399 Dissertation Research (arr.)

Limited to Doctor of Philosophy candidates. May be repeated for credit. (Fall and spring)

ENGLISH AS A FOREIGN LANGUAGE

Associate Professors G.R. Bozzini, S.M. Wright

Assistant Professors F.C. Reid, E. Echeverria, M. Kirkland, C. Meloni, S. Thompson, A.J.B. Covarrubias, J.K. Donaldson, Jr. (Director), P. Connerton, M.E. Evans, C.L. Iacobelli, M.A.P. Saunders, M.B. Bandas, P.N. Edmondson, C. Stryker (Visiting), R.W. Tucker

This comprehensive program in English as a foreign language is designed for persons enrolled or planning to enroll in University credit programs, for members of Washington's international community, and for other individuals who wish to improve their command of English through an intensive or semi-intensive study program. International students entering the program must take the EFL Placement Test before registering for any EFL course. The program in English as a foreign language offers several noncredit special courses in addition to those listed below.

Note: In special cases and with the approval of the program, component parts of EFL 15, 20, 30, and 40 can be taken separately. Tuition rates and laboratory fees are charged accordingly.

First Group**15 Intensive Basic English (0)**

Introduction to basic grammar, vocabulary, and composition. Development of reading, speaking, and listening skills. Twenty class hours per week. Students registered in EFL 15 will not be permitted to register for any other academic course. Tuition is charged at the rate of seven semester hours; laboratory fee, \$70.

20 Intensive Lower-Intermediate English (0)

Continued study of basic grammar. Continued practice in speaking, listening, reading, vocabulary, and composition. Emphasis on integration of skills. Twenty class hours per week. Students registered in EFL 20 will not be permitted to register for any other academic course. Tuition is charged at the rate of seven semester hours; laboratory fee, \$70.

30 Intensive Intermediate English (0)

Continued study of grammar with emphasis on complex structures. Further practice in reading, vocabulary, oral communication, and composition. Introduction to academic lectures and note-taking practice. Twenty class hours per week.

Students registered in EFL 30 will not be permitted to register for any other academic course. Tuition is charged at the rate of seven semester hours; laboratory fee, \$35.

40 **Intensive Higher-Intermediate English (0)**

Bandas, Kirkland,

Meloni, Saunders, Thompson

Emphasis on skills needed in academic course work. Continued practice in complex grammar, oral communication, vocabulary, note-taking skills, and composition. Practice in reading strategies for unadapted material. Introduction to basic research techniques. Twenty class hours per week. Students registered in EFL 40 will not be permitted to take additional academic work without approval of the advisor. Sections are offered with general academic and technical emphasis. Tuition is charged at the rate of seven semester hours; laboratory fee, \$35.

45 **Semi-Intensive Advanced English (0)**

Edmondson, Tucker

Emphasis on skills needed in academic course work. Selective review of grammar. Practice in reading university-level materials, speaking, and study skills. Continued practice in composition and research techniques. Eight class hours per week. Additional class sessions are offered in specialized topics. Tuition is charged at the rate of five semester hours.

50 **English Composition/Research Methods for International Students (3)**

Donaldson, Meloni

Composition and library research methods course for students who demonstrate high proficiency in English. Four class hours per week. This course can be taken by international students in lieu of Engl 9 or 10. Sections are offered with general academic and technical emphasis. Special fee, \$25.

60 **Advanced Oral Communication (3)**

Echeverria

For students who demonstrate high proficiency in English and wish to improve their formal speaking and listening skills in such areas as interviewing, preparing and delivering informative and persuasive speeches, leading and participating in small-group discussions, and taking stands on controversial issues. Instructional resources include professional speeches and topics from recent newspaper and magazine articles and interviews. Four class hours per week. Special fee, \$25.

61 **American Language and Culture (3)**

Echeverria, Covarrubias

For students who demonstrate high proficiency in English. Advanced English language skills taught through a study of currents in American thought, culture, and civilization. Discussions are based on selected texts and periodical literature. Topics are highlighted by films, guest lecturers, and cultural activities. Four class hours per week. Special fee, \$25.

ENVIRONMENTAL AND RESOURCE POLICY—GRADUATE PROGRAM

Committee on Environmental and Resource Policy

H. Merchant (Director), J. Millar, T. Vandermer, A. Viterito

The Graduate School of Arts and Sciences offers an interdisciplinary program leading to the degree of Master of Arts in the field of public policy with a concentration in environmental and resource policy. The program is directed by the Committee on Environmental and Resource Policy and draws upon faculty and relevant courses from the various departments within the University.

The Environmental and Resource Policy Program presents in its core requirement a graduate-level examination of the specific areas that affect decisions made in the broad area of environmental and resource policy. This material includes the analytic tools required for decisions leading to effective policy regarding the environment and natural resources. In addition to mastering the core material, a student is also expected to develop specific competence in an area of particular interest by choosing an approved elective field. Prospective candidates should consult with the director of the Environmental and Resource Policy Program.

Master of Arts in the field of public policy with a concentration in environmental resource policy—Prerequisite: a bachelor's degree with a B average (or equivalent) in a social science, natural science, or other relevant area from an accredited college or university and an introductory course in statistics. Presentation of Graduate Record Examination scores is strongly recommended.

Required:

(a) The general requirements stated under the Graduate School of Arts and Sciences backgrounds include some of these courses may substitute additional courses in the elective field): BiSc 208, 243; Econ 217, 237; EnHe 240; E&RP 210; PSc 203; PAd 205; Stat 183 (or other appropriate statistical techniques course).

(c) Twelve hours of courses selected from those listed in one of the following elective fields. (Students are required to meet departmental prerequisites before enrolling in these courses; check the conditions stated under the Graduate School of Arts and Sciences for receiving graduate credit for advanced undergraduate courses.)

Earth Sciences: Geog 107, 108, 136, 137, 219; Geol 105, 122, 128, 131, 175

Ecology: BiSc 140, 141, 142, 143, 144, 150, 167, 206, 242; Geog 290

Energy: Econ 235; EAd 221 (Environmental Management); Geog 134; PSc 222, 223, 252, 288, 289 (the School of Engineering and Applied Science offers many courses relevant to this area; some may be included in this program)

Resource Management: Econ 161, 162; Geog 132, 133, 222, 230, 290; Soc 127

(d) **Comprehensive Project**—Taken at the completion of the student's program, the comprehensive project is the investigation of a specific problem in environmental and resource policy and the development of a proposed solution in a manner that integrates the core curriculum with the course work in the elective field.

210 Seminar in Environmental and Resource Policy (3)

Limited to candidates in the Environmental and Resource Policy program; capstone course integrating the core and elective areas of the program. Provides practical experience in decision making and serves as preparation for the comprehensive project.

ENVIRONMENTAL SCIENCE—GRADUATE PROGRAM

Committee on Environmental Science

H. Merchant (Director), J. Millar, T. Vandermer, A. Viterito

The Graduate School of Arts and Sciences offers a multidisciplinary program leading to the degree of Master of Science in the field of environmental science. The curriculum is designed to provide an understanding of the environment with an emphasis on problems at the work place.

Master of Science in the field of environmental science—Prerequisite: a bachelor's degree with a B average from an accredited college or University and an introductory course in statistics.

Required: the general requirements stated under the Graduate School of Arts and Sciences, including 36 semester hours of course work. The required curriculum is Chem 205; Econ 217, 237; EnHe 201, 240, 256, 270, 301; PSc 222; Stat 127. An additional 6 credits are selected in consultation with the advisor. Each student must pass a Master's Comprehensive Examination.

ENVIRONMENTAL HEALTH

201 Introduction to Epidemiology (3)

Principles and methodology of epidemiology and biostatistics. Ecological approach to health and disease, including parasitology and mycology.

240 Environmental Impact Statement Procedures and Environmental Law (3)

The rationale for environmental impact statements from the viewpoint of the nature and origins of environmental concerns. Government agencies responsible

for environmental impact statements; current statutes and regulations pertaining to the environment.

256 **Introduction to Environmental Health (3)**

Organizations, functions, current practices, and regulations at all levels to control the environment. Economic impact upon society and industry in carrying out control and preventive practices.

270 **Industrial Hygiene (3)**

Industrial health hazards: chemical exposure to toxic dusts, metallic fumes and vapors, gases, and organic compounds; physical hazards such as high- and low-temperature biological effects, radiation (electromagnetic, ultraviolet, ionizing), illumination, sound, pressure, and particulate pollution; prevention and control of industrial health hazards.

301 **Applied Epidemiology and Environmental Health (3)**

Lectures, seminars, and case studies. Epidemiological solutions to health problems of the community.

ENVIRONMENTAL STUDIES

Committee on Environmental Studies

H. Merchant (Chair), W.C. Parke, W.E. Schmidt, A. Viterito, A.M. Yezer

Columbian College of Arts and Sciences offers interdepartmental programs in environmental studies leading to the degree of Bachelor of Arts or Bachelor of Science. By emphasizing the social sciences, the program leading to the degree of Bachelor of Arts is designed to serve the student whose participation in the environmental decision-making process involves integrating information of a less technical nature. The program leading to the degree of Bachelor of Science prepares a student for a role in environmental decision making that involves the interpretation and use of technical information.

Bachelor of Arts with a major in environmental studies (departmental)—The following requirements must be fulfilled:

1. The general requirements stated under Columbian College of Arts and Sciences.
2. Prerequisite courses (qualified students may substitute advanced courses with departmental permission, in order to include more elective courses in their program):

- (a) Statistics—Stat 91.
- (b) Natural sciences—6–8 semester hours selected from BiSc 3–4, 11–12; Chem 11–12; Geol 1–2; or Phys 1, 2, 5, 6. BiSc 3–4 must be passed with a grade of A or B to be accepted toward fulfilling the introductory natural science requirement.
- (c) Social sciences—Econ 11–12, plus 6 semester hours selected from Anth 1–2; Geog 1, 2, 3; PSc 1, 2; Psyc 1, 5–6; or Soc 1, 2.

3. Required courses for the major (51 semester hours):

- (a) BiSc 140; Econ 136; Geog 132.
- (b) Eight semester hours selected from BiSc 101, 102, 103, 105, 107, 108, 109, 110, 111, 120, 123, 124, 125, 127, 128, 135, 141, 142, 143, 144, 145, 150, 166, 167, 168, 169, 185, 208, 242, 243; Chem 22, 50, 122, 151–52, 153–54; Geol 5, 105, 122, 125, 128, 141, 163; Phys 14, 15, 16, 127–28.
- (c) 24 semester hours in courses selected from no more than two departments in the following—Anth 150, 151, 152, 171, 186, 187, 188, 263, 267, 273; Econ 101, 102, 105, 157, 158, 161, 199, 237; Envr 159–60, 161; Geog 106, 107, 108, 110, 127, 134, 135, 136, 137, 140, 143, 145, 222; PSc 104, 111, 112, 117, 118, 120, 122, 124, 129; Psyc 104, 144, 151, 156; Soc 120, 126, 127, 130, 143, 181.
- (d) Envr 151–52, 157.

Bachelor of Science with a major in environmental studies (departmental)—The following requirements must be fulfilled:

1. The general requirements stated under Columbian College of Arts and Sciences.
2. Prerequisite courses (qualified students may substitute advanced courses, with departmental permission, in order to include more elective courses in their program):

- (a) Statistics—Stat 91.

(b) Natural sciences—12–18 semester hours selected from BiSc 11–12; Chem 11–12; Geol 1–2; Phys 1, 2, 5, 6. Either BiSc 11–12 or Chem 11–12 must be selected.

(c) Social sciences—Econ 11–12, plus 6 semester hours selected from Anth 1–2; Geog 1, 2, 3; PSc 1, 2; Psyc 1, 5–6; Soc 1, 2.

3. Required courses for the major (51 semester hours):

(a) BiSc 140; Econ 136; Geog 132.

(b) 23 semester hours selected from BiSc 101, 102, 103, 105, 107, 108, 109, 110, 111, 120, 123, 124, 125, 127, 128, 135, 141, 142, 143, 144, 145, 150, 166, 167, 168, 169, 185, 200, 242, 243; Chem 22, 50, 122, 151–52, 153–54; Geol 5, 105, 122, 125, 128, 141, 163; Phys 14, 15, 16, 127–28.

(c) 9 semester hours selected from Anth 150, 151, 152, 171, 186, 187, 188, 263, 267, 273; Econ 101, 102, 105, 157, 158, 161, 199, 237; Geog 106, 107, 108, 110, 127, 134, 135, 136, 137, 140, 143, 145, 222; PSc 104, 111, 112, 117, 118, 120, 122, 124, 129; Psyc 104, 144, 151, 156; Soc 120, 126, 127, 130, 143, 181.

(d) Envr 151–52, 157.

The science and social science courses listed under 3(b) and 3(c) above must be taken in not more than three departments. Not more than 6 hours of service-learning courses may count toward fulfilling requirements of the major.

In choosing elective courses for both the Bachelor of Arts and Bachelor of Science degree programs, students are reminded that, unless a Secondary Field of Study is chosen, permission of the Dean of Columbian College of Arts and Sciences and the Committee on Environmental Studies is necessary to take courses not offered by Columbian College of Arts and Sciences, and a maximum of 9 semester hours of such courses may be taken. The following may be of interest to the environmental studies major: BAD 101, 171, 201, 203; C 194, 197 (see the School of Engineering and Applied Science Bulletin); U&RP 153, 201. The permission of the instructor, the department chair, and the dean of the School of Government and Business Administration is necessary to take graduate courses (numbered 200 and above) in that School.

151–52 Senior Seminar in Environmental Studies (3–3)

Limited to majors in environmental studies. Directed reading and discussion of contemporary environmental problems.

157 Introduction to Environmental Law (3)

An introduction to selected pieces of major environmental legislation. The role of the courts and bureaucracy in implementing and interpreting legislation. Impact on decision making. Designed for students with no training in law.

159–60 Field Experience (3–3)

Open to juniors and seniors majoring in environmental studies. Students spend at least eight hours per week in a political, technical, legal, or special-interest organization working on environmental questions.

161 Environmental Policy Internship (3 or 6)

For students interested in environmental policy and decision making at the national level. The course consists of an internship with a federal agency or public interest group concerned with environmental affairs, a weekly seminar based on directed readings, guest speaker presentations, and a major term paper (Summer)

EXERCISE AND SPORT ACTIVITIES

See Human Kinetics and Leisure Studies.

FORENSIC SCIENCES—GRADUATE PROGRAMS

Professors T.P. Perros, J.E. Starrs, T.F. Courtless, Jr., C. O'Rear (Chair)

Adjunct Professor C.G. McWright

Professorial Lecturers L.R. Goldbaum, E.G. Howe, C.E. Bohn, K.E. Melson, R.C. Moore

Associate Professors N.T. Lappas, W.F. Rowe

Associate Professorial Lecturers W.A. Bayse, S.R. Lorigo, R.E. Easton, G. Epstein, S.E. Garmon, H.T. Samway, S.S. Sohn, D.G. Wright
Assistant Professorial Lecturers L. O'Grady, S.W. Bentley, J.R. Carlon, W.E. Clancy, E.L. Lee II, J. Schloegel, S.J. Cribari, J.T. Martin, J.J. Conway

Master of Forensic Sciences—Prerequisite: a bachelor's degree from an accredited institution of higher learning and academic or professional experience in the behavioral, biological, or physical sciences or in law, medicine, or law enforcement.

Required: the general requirements stated under the Graduate School of Arts and Sciences. Students must complete 36 semester hours of approved course work; students approved for a thesis must complete 30 semester hours of course work plus a thesis (equivalent to 6 semester hours). ForS 220, 221, 224, and 225 are required of all students. ForS 224 may be waived for students having an LL.B. or J.D. degree from an accredited law school. The following are also required: (1) 9 hours selected from ForS 201, 202, 203, 204, and 205; (2) 9 hours selected from ForS 214, 260, 261, 265, and 269; (3) the remaining semester hours must be selected in consultation with the advisor from the behavioral sciences, law, management science, or forensic sciences. It is strongly recommended that students participate in the forensic sciences practicum. All candidates are required to pass a written Master's Comprehensive Examination.

Master of Forensic Sciences with a concentration in forensic molecular biology—Prerequisite: a bachelor's degree in the biological or physical sciences from an accredited college or university.

Required: the general requirements stated under the Graduate School of Arts and Sciences. The program of studies consists of 40 semester hours of approved course work. Bioc 221-22, 250; BiSc 229 or ForS 201; BiSc 228, 230, 274, 275; ForS 295, Micr 229, and Stat 127 are required of all students. The remaining required hours are electives chosen in consultation with the advisor. The Bioc 221-22 requirement may be waived if equivalent courses have been taken within the last two years as a part of a graduate degree program. Each student must participate in a departmental seminar in forensic molecular biology each semester. All candidates are required to pass a written Master's Comprehensive Examination.

Master of Science in the field of chemical toxicology—Prerequisite: completion of the first three years of the combined B.S./M.S. program in chemical toxicology (see Chemistry Department) or its equivalent. Courses may be required to remove academic deficiencies.

Required: the general requirements stated under the Graduate School of Arts and Sciences. The following courses are required: Bioc 221-22; Phyl 191; Phar 203; ForS 240, 245, and 242 or 270; two courses selected from ForS 246, 248, 249, 269; ForS 299-300 or Chem 299-300. Chem 134, 141-42, and Stat 127 will be required of students who have not had these courses or their equivalent. All candidates are required to pass a Master's Comprehensive Examination.

Master of Science in Forensic Science—Prerequisite: a bachelor's degree in the biological or physical sciences from an accredited college or university.

Required: the general requirements stated under the Graduate School of Arts and Sciences. The program of study consists of 30 semester hours of course work, plus a thesis (equivalent to 6 semester hours). Individualized programs of study will be developed to meet the career objectives of each student. Students may specialize in forensic chemistry, toxicology, or serology. Each such program of study must include ForS 224 and 225. All candidates must also participate in the departmental seminar each semester. The remaining semester hours must be selected from approved courses in the forensic sciences, biological and physical sciences, management science, law, or basic medical sciences. It is strongly recommended that students participate in the forensic sciences practicum. All candidates are required to pass a written Master's Comprehensive Examination.

Master of Arts in the field of criminal justice—Prerequisite: a bachelor's degree from an accredited college or university.

Required: the general requirements stated under the Graduate School of Arts and Sciences. The program of study consists of 36 semester hours of approved course work in

the forensic sciences, law, criminology, management science, sociology, and psychology. ForS 214, 220, 221, 224, 225, 228, 265, 266, 274, 290, and Soc 259, 261 are recommended. All candidates are required to pass a written Master's Comprehensive Examination. It is strongly recommended that students participate in the forensic sciences practicum.

Master of Arts in the field of criminal justice with a concentration in crime in commerce—Prerequisite: a bachelor's degree from an accredited college or university.

Required: the general requirements stated under the Graduate School of Arts and Sciences. The program of study consists of 36 semester hours of approved course work drawing upon the forensic sciences, law, accounting, computer science, investigative techniques, and management. ForS 203, 224, 225, 229, 232, 233, 234, 235, 251, 267, 274, and Stat 197 are recommended. All candidates are required to pass a written Master's Comprehensive Examination. It is strongly recommended that students participate in the forensic sciences practicum.

Master of Arts in the field of criminal justice with a concentration in security management—Prerequisite: a bachelor's degree from an accredited college or university.

Required: the general requirements stated under the Graduate School of Arts and Sciences. Students must complete 36 semester hours of approved course work; students approved for a thesis must complete 30 semester hours of course work plus a thesis (equivalent to 6 semester hours). The program of study consists of course work drawing from the forensic sciences, law, criminology, management science, investigative techniques, and security management. Courses are selected from ForS 214, 224, 229, 232, 233, 234, 252, 254, 256, 257, 266, 267, 290, 295; Soc 263. All candidates are required to pass a written Master's Comprehensive Examination. It is strongly recommended that students participate in the security management practicum.

The interdisciplinary programs leading to the degrees of Master of Arts, Master of Forensic Sciences, and Master of Science in Forensic Science may include course work from the School of Government and Business Administration, the National Law Center, the School of Medicine and Health Sciences, and graduate course work in the behavioral, biological, and physical science departments of the University. Students work closely with their advisors in setting up a program that meets their interests, needs, and background knowledge. The Department of Forensic Sciences is affiliated with the Armed Forces Institute of Pathology and with the Council of Higher Education, Commonwealth of Virginia, in programs of mutual exchange of students, courses, and facilities. For further information, contact the Department of Forensic Sciences.

A research field in forensic chemistry is available in the Ph.D. program in the Chemistry Department.

201 Forensic Serology I (3)

Principles of the forensic analysis of blood and other biological materials. Specific procedures and techniques used in forensic serology. Laboratory exercises.

202 Instrumental Analysis (3)

Principles and application of various instrumental methods to the examination of criminal evidence, including chromatographic and spectrophotometric techniques and mass spectrometry. Laboratory exercises.

203 Examination of Questioned Documents (3)

Theory and principles of handwriting and handprinting, duplicating processes, paper manufacture and fiber analysis; studies of paper and methods of examination of questioned documents. Laboratory exercises.

204 Firearms and Toolmark Identification (3)

Methods for identifying firearms, cartridge casings, toolmarks, tire marks, and footprints. Laboratory exercises.

205 Personal Identification (3)

Methods of personal identification based on sketches, fingerprints, voiceprints, odontology, and study of skeletal remains.

214 Forensic Psychiatry (3)

Introduction to the constructs of dynamic psychiatry, psychiatric treatment, and the nomenclature of mental disorders. Consideration of expert testimony, direct examination, and cross-examination in hospitalization and criminal cases.

Lappas, Row

Perros, Row

Bohn, Epstein

O'Rear, Row

Howe, Mor

- 220 **Physical Aspects of Forensic Sciences** (3) O'Rear, Rowe
Survey of forensic physical sciences; fingerprints, firearm and toolmark examinations, document examinations, and examinations of trace evidence, such as glass, soil, paint, hairs, and fibers; crime scene investigations; qualifications and preparation of expert witnesses; operation and functioning of the forensic science laboratory.
- 221 **Biological Aspects of Forensic Sciences** (3) Lappas, Rowe
Principles of forensic pathology, serology, and toxicology. The role of the forensic laboratory in the identification of human remains; determination of the time, cause, and manner of death; partial individualization of biological materials; and the detection of drugs in biological materials.
- 224 **Criminal Law I** (3) Clancy, Melson, O'Grady
Principles of criminal law and procedure, preparation and presentation of evidence, examination of witnesses, and methods of legal research.
- 225 **Criminal Law II: Evidence** (3) Melson, O'Grady, Samway
Procedural rules affecting the collection and use of physical evidence. Emphasis on court opinions defining the rules of search and seizure and admissibility of evidence. Prerequisite: ForS 224.
- 227 **Criminal Law III: Procedure** (3) Melson, O'Grady
Decision to arrest, prosecutive discretion, bail, the preliminary hearing, right to a speedy trial, discovery, plea bargaining, publicity, postconviction procedures. Prerequisite: ForS 224.
- 229 **Criminal Law IV: Contracts** (3) Easton
Concepts and principles of law encountered in commercial activities: contracts, sales, negotiable instruments, and bankruptcy. Emphasis on recognition of deceptive contracting practices. Statutes and government regulation governing contracts.
- 232 **Crime in Commerce I: Accounting** (3) Lorigo
Principles of accounting; abuse and misuse of accounting procedures; use of accounting in the investigation of commercial crime.
- 233 **Crime in Commerce II: Procurement and Supply** (3) Bentley, Lorigo
Governmental and private-sector procurement procedures; techniques of inventory management; abuse of procurement procedures and illicit diversion of supplies.
- 234 **Crime in Commerce III: Information Systems** (3) Bayse
Principles of management information systems; security of information systems and facilities; compromising of information systems.
- 235 **Crime in Commerce IV: Conspiracy** (3) Lorigo
Legal definition of conspiracy; quantum of proof; use of investigative techniques to establish the existence of criminal conspiracies.
- 240 **Principles of Toxicology** (4) Lappas
Concepts of toxicology, including its historical development and modern applications, drug disposition, mechanisms of toxicity; factors that influence toxicity and toxicity evaluation. Prerequisite: Phar 203 or permission of instructor.
- 242 **Chemistry of Organic Medicinal Agents** (3) O'Rear
A correlated study of the composition, constitution, physical and chemical properties, and pharmaceutical uses of organic medicinal agents. Included are discussions of the heterocyclic chemistry of these agents.
- 245 **Analytical Toxicology** (4) Lappas
A study of qualitative and quantitative principles and procedures used in the detection, identification, isolation, purification, and potency determination of drugs. Laboratory.
- 246 **Environmental Toxicology** (3) Lappas
A study of the chemical substances to which humans are unintentionally exposed. Emphasis will be placed on pesticides, food additives, and air pollutants.
- 248 **Clinical Toxicology** (3) Staff
A study of the adverse effects caused by or related to the use of drugs. The signs and symptoms, diagnoses, and treatments will be emphasized.

- 249 **Industrial Toxicology (3)**
A study of the potential hazards encountered by workers as a result of the exposure to raw materials, intermediates, and finished products. The types of exposure and methods of predicting and preventing toxic exposure will be emphasized. Staff
- 250 **Interdisciplinary Aspects of Forensic Science (3)**
Scientific and legal aspects of current concepts. Includes qualification as an expert witness, chain of custody, impact of testimony on the jury, admissibility of evidence, class evidence vs. individualized evidence, and search and seizure. Prerequisite: ForS 224. Carlson, O'Rear
- 251 **Moot Court (3)**
Students prepare and present direct testimony and are cross-examined by an experienced trial attorney in simulated courtroom setting. Class discussions of problems, techniques. Lectures on discovery, admissibility of scientific evidence, chain of custody, use of notes, etc. Prerequisite: ForS 224. Cribari, Martin
- 252 **Topics in Security Management (3)**
The broad spectrum of factors that shape modern security management: technology, government regulations and policies, corporate matters, information systems, legal principles, international programs, congressional committees, industrial organizations, associations. Potential areas of research and study. Lee
- 254 **Selected Topics in the Forensic Sciences (3)**
Current issues in research, investigation, and law. O'Rear
- 255 **Security Management I (3)**
Risk assessment and management, redundant security systems, cost-benefit analysis. Administration of personal, industrial, and physical plant security. Analysis of factors that facilitate decision making in security problems. Lee
- 256 **Security Management II (3)**
Hostage situations, preparation of high-risk employees and spouses for hostage incidents, management of post-incident situations, hostage rescue groups. Conway
- 257 **Management of Security Organizations (3)**
Theories of management, with emphasis on leadership and interaction of individuals, groups, managers, and the organization as a whole. Discussions centered on organizations with security responsibilities, including government agencies, corporate entities, and the military. Sohn, Wright
- 260 **Principles of Forensic Medicine (3)**
Anatomy and physiology of the human body, with emphasis on understanding the processes underlying traumatic and unexpected deaths encountered in forensic pathology. Bone growth and repair as it relates to child abuse, structure and functions of the heart as related to sudden death, and anatomic area of the brain prone to hemorrhagic lesions following trauma. Sohn, Wright
- 261 **Principles of Forensic Pathology (3)**
Terminology and scientific techniques used in medico-legal investigations, sudden or unexpected deaths, homicides, suicides, accidental deaths, and trauma. Sohn, Wright
- 265 **Drugs of Abuse (3)**
Chemical, pharmacological, toxicological, and pathological characteristics of commonly abused drugs, including ethanol, barbiturates, narcotics, stimulants and hallucinogens. Primarily for M.A. degree candidates; open to others with permission of instructor. Lappas, O'Rear
- 266 **Seminar: Modern Trends in Criminal Justice (3)**
Recent advances in criminal justice. Discussions incorporate several disciplines including science, law, management, social sciences, and psychology. O'Rear, Courtless
- 267 **Seminar: Crime in Commerce (3)**
Interdisciplinary course in current problems in the investigation and prosecution of commercial offenses. Lorge
- 268 **Photography in the Forensic Sciences (3)**
Basic use of forensic photography, including selection and use of equipment, photographs as evidence, close-up work, and common misconceptions. Laboratory fee, \$35. Wright

- 269 **Forensic Toxicology I** (3) Lappas
Relevant underlying biological, chemical, and pharmacological principles of forensic toxicology.
- 270 **Medicinal Chemistry** (3) O'Rear
Theory and principles of classification, synthesis, and structure activity relationships of drugs. Discussion of the complex chemical events that take place between administration of a drug and its action on the user, with emphasis on drugs of abuse.
- 271 **Forensic Serology II** (3) Lappas
Methods in forensic serology. Laboratory examinations and classifications of dried blood and other biological materials. Independent laboratory projects. Laboratory fee, \$35. Prerequisite: ForS 201 or permission of instructor.
- 272 **Forensic Toxicology II** (3) Lappas
Lectures, student seminars, laboratory exercises, and projects dealing with topics of current interest in forensic toxicology. Prerequisite: ForS 245 or 269 or permission of instructor. Laboratory fee, \$35.
- 273 **Forensic Chemistry I** (3) Rowe
Examination of glass, soils, hairs, and fibers. Laboratory exercises include refractive index measurements using immersion methods; polarized light observations of minerals, hairs, and fibers; elemental analysis of glass and soil by spectroscopic methods; x-ray diffraction analysis of minerals; and classical chemical and physical methods of analysis. Prerequisite: ForS 202 or permission of instructor. Laboratory fee, \$35.
- 274 **Management of Criminal Justice Organizations** (3) O'Rear
Theories of management with emphasis on leadership. Interaction of individuals, groups, managers, and the organization as a whole. Discussions center on the criminal justice system.
- 280 **Forensic Chemistry II** (3) Rowe
Examination of arson accelerants, textile fibers, plastics, and paints. Laboratory exercises include infrared spectrophotometry and pyrolysis—gas—liquid chromatography of polymeric materials, as well as classical chemical and physical methods of analysis. Prerequisite: ForS 273. Laboratory fee, \$35.
- 290 **Research in Criminal Justice** (3) Courtless, Schloegel
An examination of the role and process of research as it serves the criminal justice system. Presentations and discussions of the literature with emphasis on the use of research and analysis in formulating and evaluating criminal justice policy.
- 295 **Research** (arr.) Staff
Open to qualified master's degree students. Research on problems approved by the department chairman or academic advisor, under the supervision of an appropriate staff member.
- 297 **Security Management Practicum** (1) O'Rear
Open to qualified master's degree students. Internship experience in an agency or corporate unit with security responsibilities, under the supervision of an appropriate staff member. Students must preregister for the course. Credit for the course cannot be used toward the 36 semester hours required for the master's degree.
- 298 **Forensic Sciences Practicum** (1) O'Rear
Open to qualified master's degree students. Internship experience in a forensic science laboratory or criminal justice agency, under the supervision of an appropriate staff member. Students must preregister for this course. Credit for the course cannot be used toward the 36 semester hours required for the master's degree.
- 299–300 **Thesis Research** (3–3) Staff
(Fall and spring)

FRENCH

See Romance Languages and Literatures.

GENETICS—GRADUATE PROGRAMS**Committee on Genetics**

S.O. Schiff (Director), W.F. Anderson, K.M. Brown, D.J. Brusick, G. Clawson, R.G. Cryan, P. Czerski, R.F. De Giovanni-Donnelly, W. Drohan, R.C. Gallo, C.T. Garrett, D. Goldman, G. Hager, B.H. Howard, L.W. Hoyer, V.W. Hu, D.E. Johnson, K.A. Kennedy, P.D. Kind, A. Kumar, J.W. Larsen, W.M. Leach, J. Leonard, R. Mage, K.H. McKenney, C.R. Merrill, T.W. Moody, D. Morris, P. Noguchi, S. O'Brien, S. Patierno, J.C. Petricciani, U.R. Rapp, K.N. Rosenbaum, B. Safer, J. Schlom

The Graduate School of Arts and Sciences offers an interdepartmental program leading to the degrees of Master of Science and Doctor of Philosophy in the field of genetics. The program is directed by a committee whose members are drawn from the Departments of Biochemistry, Biological Sciences, Microbiology, Obstetrics and Gynecology, Pathology, and Pharmacology and from government agencies and private industry.

Requirements for admission are stated under the Graduate School of Arts and Sciences. The undergraduate program must have included the following: 8 semester hours each in biology, inorganic chemistry, and organic chemistry; 6 semester hours in physics; 6 semester hours in English composition and literature; one course in at least two of the following areas: genetics, cell biochemistry, cell or molecular biology.

Master of Science in the field of genetics—Required: the general requirements stated under the Graduate School of Arts and Sciences. The 30 semester hours required in the program must include Gnet 201 and Gnet 299–300. The remaining 22 semester hours of course work are to be selected, with the approval of the Committee on Genetics, from the departmental courses listed below.

Doctor of Philosophy in the field of genetics—Required: the general requirements stated under the Graduate School of Arts and Sciences. The program of study must include Gnet 301, 8–10 semester hours of biochemistry, 6–8 semester hours of cell biology, 10–12 semester hours of genetics, and 3 semester hours of statistics. These courses may be selected from the departmental listings below. (Course descriptions are listed under the department concerned.)

201 Advanced Problems in Genetics (2)

Lectures on selected topics by members of the Committee on Genetics. Required of all master's degree candidates in the Genetics Program. Limited to students enrolled in the Genetics Program unless special permission is obtained from the director. (Fall)

256 Biochemical Genetics and Inherited Metabolic Diseases (2)

Biochemical aspects of genetics and contributions of molecular biology to understanding of human mutations and hereditary diseases. (Spring)

295 Research (arr.)

Open to qualified master's degree students. Research on problems approved by the Committee on Genetics. May be repeated for credit. (Fall and spring)

299–300 Thesis Research (3–3)

(Academic year)

301 Advanced Problems in Genetics (2)

Lectures on selected topics by members of the Committee on Genetics. Required of all Ph.D. candidates in the Genetics Program. Limited to students enrolled in the Genetics Program unless special permission is obtained from the director. (Fall)

398 Advanced Reading and Research (arr.)

Limited to students preparing for the Doctor of Philosophy general examination. May be repeated for credit. (Fall and spring)

399 Dissertation Research (arr.)

Limited to Doctor of Philosophy candidates. May be repeated for credit. (Fall and spring)

- Anat 203 Human Developmental Anatomy
 Bioc 221-22 General Biochemistry
 Bioc 223 Physical Biochemistry
 Bioc 231 Bioenergetics
 Bioc 234 Structure and Function of Proteins and Enzymes
 Bioc 250 Molecular Biology
 Bioc 251 Advanced Topics in Molecular Biology
 Bioc 252 Biochemical and Molecular Aspects of Selected Diseases
 Bioc 270 Biochemistry and Cell Biology of the Immune Response
 BiSc 111 Introductory Microbiology
 BiSc 122 Cell Biology
 BiSc 123 Cell Biochemistry
 BiSc 124 Cell Biochemistry Laboratory
 BiSc 127 Genetics
 BiSc 128 Genetics Laboratory
 BiSc 138 Advanced Genetics
 BiSc 145 Introduction to Vertebrate Embryology
 BiSc 146 Experimental Developmental Biology
 BiSc 167 Radiation Biology
 BiSc 212 Seminar in Comparative Reproductive Biology
 BiSc 220 Seminar: Cell or Plant Biochemistry
 BiSc 227 Seminar: Genetics
 BiSc 228 Population Genetics
 BiSc 229 Cytogenetics
 BiSc 230 Human Genetics
 BiSc 248 Analysis of Development
 BiSc 249 Seminar: Developmental Biology
 BiSc 272 Electron Microscopy
 BiSc 274 Gene Regulation and Genetic Engineering
 BiSc 275 Introduction to Recombinant DNA Techniques
 Micr 229 Immunology
 Micr 233 Virology
 Micr 234 Virology Laboratory
 Micr 241 Survey of Molecular Biology Techniques
 Micr 258 Microbial Genetics
 Micr 260 Cellular Immunology
 Phar 203 Fundamental Principles of Pharmacology
 Phar 220 Molecular Events in Toxic Actions
 Phar 222 Genetic Toxicology
 Phar 258 Cancer Chemotherapy
 Stat 127 Statistics for the Biological Sciences
 Stat 129 Introduction to Computing
 Stat 153-54 Mathematical Models in Population Genetics

GEOBIOLOGY—GRADUATE PROGRAMS

Committee on Geobiology

A.G. Coates (Chair), A. Brooks, M.A. Buzas, R.E. Knowlton, D.L. Lipscomb, H. Merchant, A. Viterito

The Graduate School of Arts and Sciences offers an interdepartmental program leading to the degrees of Master of Science and Doctor of Philosophy in the field of geobiology. The program is directed by a committee whose members are drawn from the Departments of Anthropology, Biological Sciences, Geography and Regional Science, and Geology. It is enhanced by cooperative relationships with the Smithsonian Institution and the U.S. Geological Survey.

A bachelor's degree in anthropology, biology, botany, geography, geology, or zoology from this University, or an equivalent degree from another accredited institution of higher

learning, is required for admission to the program. Prerequisite University courses (or equivalent courses elsewhere) include the following: BiSc 101 or 104 or Anth 186, BiSc 105 or Anth 187, BiSc 140; Geol 2, 151 or 154 or Anth 188; Stat 91.

Master of Science in the field of geobiology—Required: the general requirements stated under the Graduate School of Arts and Sciences. The program includes 30 semester hours of course work, plus a thesis (equivalent to 6 semester hours). Required courses include BiSc 107 or 168 or 169, 208, 209; Geol 195, 254, and 255. Electives are selected from the following (to total, with the required courses, at least 30 semester hours): Anth 152, 186, 187, 188, 201, 204, 247, 283, 294; BiSc 103, 104, 105, 110, 138, 141, 143, 144, 146, 147, 148, 168, 169, 204, 210, 211, 221, 227, 228, 229, 238, 239, 242, 243; Geog 104, 106, 108, 219, 220; Geol 105, 125, 128, 152, 154, 158, 163, 175, 181, 241, 253, 258, 263, 266.

Doctor of Philosophy in the field of geobiology—Required: the general requirements stated under the Graduate School of Arts and Sciences. The program includes 48 semester hours of course work, plus a dissertation (equivalent to 24 semester hours). Required courses include: BiSc 107, 208, 209, 211, 228; Geol 125, 195, 254, 255, 263. Electives are to be selected from remaining elective courses listed for the master's degree (to total, with the required courses, at least 48 semester hours).

Research fields: Any subdiscipline of anthropology, biology, geography, or geology that pertains to research in ecology and evolution.

GEOGRAPHY AND REGIONAL SCIENCE

Professors J.C. Lowe, D.E. Vermeer (Chair)

Professorial Lecturers E. Marasciulo, B. Thomas

Associate Professorial Lecturers J.A. Zinn, J. Banister, S.E.S. Mastran

Assistant Professors A. Viterito, M.W. Lewis, D.M. Hart

Assistant Professorial Lecturers S. Wright, W.B. Wood

Bachelor of Arts with a major in geography (departmental)—The following requirements must be fulfilled:

1. The general requirements stated under Columbian College of Arts and Sciences
2. Required courses in the major—Geog 1, 2; 30 semester hours of second-group geography and regional science courses to be chosen in consultation and with the approval of the undergraduate advisor. One course must be chosen from each of the following: Group A—Geog 108, 110, 132, 136; Group B—Geog 125, 126, 140, 141; Group C—Geog 127, 133, 146; Group D—Geog 104, 105, 106, 107.

Minor in geography—Required: 21 credit hours, including Geog 1, 2, and one course from each of the following groups: Group A—Geog 127, 145, 146; Group B—Geog 125, 126, 141; Group C—Geog 108, 110, 137; Group D—Geog 132, 134, 135, 136; Group E—Geog 123, 124, 140, 143.

Master of Arts in the field of geography—Prerequisite: a bachelor's degree with a major in geography or in a related field in the social or natural sciences.

Required: the general requirements stated under the Graduate School of Arts and Sciences. Course work must include Geog 105 (*Techniques of Spatial Analysis*) and Geog 250 (*Regional Development*).

Thesis and nonthesis options are available: The thesis option requires a minimum of 36 semester hours of course work, including *Thesis Research*; the nonthesis option requires completion of 36 credit hours of graduate work. All degree candidates must take a Master's Comprehensive Examination that covers the substance of academic work pursued under the program of study.

Students entering the program without a bachelor's degree with a major in geography will be required to take prerequisite courses as determined by the department. All entering students must have completed one course, or its equivalent, from each of the following:

groups: physical/resource geography (Geog 108, 132, 135); population/cultural/political geography (Geog 127, 145, 146); urban/economic geography (Geog 125, 140, 141).

Depending upon the chosen field of specialization, each student will select electives from appropriate courses within the department or from related programs and departments within the University or the Consortium of Universities. The student's program of study will be developed in consultation with the advisor and graduate committee.

Master of Science and Doctor of Philosophy in the field of geobiology, see Geobiology.

First Group

1 Introduction to Geography I (3)

Lowe, Lewis, Vermeer

A systematic survey of human geography; cultural perspectives on the use of space, including urbanization, geopolitics, and land use. (Fall and spring)

2 Introduction to Geography II (3)

Vermeer, Viterito

A systematic survey of environmental geography; perspectives on environments and human ecology, including ecosystems and their use, human population dynamics, and resource geography. (Fall and spring)

3 The Physical Environment (3)

Viterito

A study of the earth's physical environment, its systems, subsystems, and physical processes. Laboratory fee, \$25.

Second Group

104 Maps and Mapmaking (3)

Wright

Descriptive and statistical techniques for thematic mapping; computer cartography. Laboratory fee, \$25.

105 Techniques of Spatial Analysis (3)

Viterito

Nature of geographical inquiry, approaches to the study of geography, empirical research methods.

106 Remote Sensing of the Environment (3)

Viterito

Examination of the principles and applications of remote sensing techniques using color infrared, microwave, and satellite imagery. Laboratory fee, \$25.

107 Air Photo Interpretation (3)

Thomas

Use of aerial photography for problems in land use, urban analysis, archaeology, and environmental monitoring. Laboratory fee, \$25.

108 Weather and Climate (3)

Viterito

An examination of atmospheric processes and climatic regions. Laboratory fee, \$25. Prerequisite: Geog 2.

110 Climate and Human Ecology (3)

Viterito

Effects of climate on human activities. Examination of human-induced climate change. Prerequisite: Geog 2.

120 Geographic Information Systems (3)

Staff

Analysis of cartographic data structures and automated mapping data bases. Examination of digitizing and plotting techniques. Laboratory fee, \$25.

121 Computer Mapping (3)

Staff

Analysis and application of computer mapping methods. Examination of FORTRAN and BASIC programming methods as they apply to cartography. Laboratory fee, \$25.

124 Urban Transportation (3)

Lowe

The relationship between freight and passenger transportation systems and urban land use patterns and structure. Prerequisite: Geog 1.

125 Transportation and Communication (3)

Lowe

The structure and evolution of transportation and communication networks and their impact on regional development. Prerequisite: Geog 1.

126 Location in Manufacturing and Agriculture (3)

Staff

Theories dealing with the location and dynamics of economic activities. Prerequisite: Geog 1.

- 127 **Population and Settlement** (3)
Patterns of world population; factors contributing to population pressure, growth, and migrations. Prerequisite: Geog 1.
- 132 **Resource Management and Conservation** (3)
The global distribution, utilization, and degradation of natural resources. Prerequisite: Geog 2.
- 133 **People, Land, and Food** (3)
Spatial disparities in world food production, demand, and distribution; regional food-population balances; food supply problems and prospects. Prerequisite: Geog 1 or 2.
- 134 **Energy Resources** (3)
Analysis of regional patterns and trends in consumption and production of energy resources. Examination of international energy linkages and energy policies of selected nations. Prerequisite: Geog 2.
- 135 **Resources and Environmental Quality** (3)
Investigations into questions of resource use and environmental quality. Emphasis on public policy and societal attitudes as they influence resource use. Prerequisite: Geog 2.
- 136 **Water Resources** (3)
Analysis of the global spatial patterns, development, and use of water resources. Prerequisite: Geog 2.
- 137 **Environmental Hazards** (3)
Examination of natural hazards in terms of their types, distributions, and impacts on human activities. Prerequisite: Geog 2.
- 140 **Urban Form and Dynamics** (3)
Analysis of the internal spatial structure of cities; emphasis on explaining patterns and dynamics of location within the city. Prerequisite: Geog 1.
- 141 **Urban Settlement** (3)
The location of cities, urbanization processes, theories and models of urban location and development. Prerequisite: Geog 1.
- 143 **Urban Social Geography** (3)
Behavioral perspectives on human spatial activities in cities. Prerequisite: Geog 1.
- 144 **Explorations in Historical Geography** (3)
Examination of selected themes in the cultural geography of the United States over the course of its history, in relation to an overview of the historical geography of the country. Same as AmCv 144. (Spring)
- 145 **The Cultural Landscape** (3)
Analysis of the relationships between culture and environment; emphasis on spatial and ecological considerations. Prerequisite: Geog 1.
- 146 **Politics in Place and Space** (3)
Interrelationships among the human and physical environment and political systems; the organization of political territories. Prerequisite: Geog 1.
- 147 **Military Geography** (3)
An examination of environmental and locational factors and their impact on military planning and operations. Prerequisite: Geog 1 or 2.
- 151 **Man and Land in North America** (3)
An examination of the social, environmental, and economic factors that have led to development of the several regions of the U.S. and Canada. Prerequisite: Geog 1 or 2.
- 154 **Man and Land in the Middle East and North Africa** (3)
Cultural and physical regional patterns of the Middle East and North Africa. Prerequisite: Geog 1 or 2.
- 161 **Man and Land in Latin America** (3)
Examination of spatial characteristics of physical and cultural phenomena in Middle and South America. Prerequisite: Geog 1 or 2.
- 189-90 **Readings in Geography** (arr.)
Prerequisite: 12 credit hours of geography and permission of instructor.

- 198 **Special Topics** (3) Staff
Consideration of geographic aspects of topical and future problems of society. May be repeated for credit provided that the topic differs. Prerequisite: Geog 1 or 2.
- 199 **Internship** (3) Staff
Field work, internship or other controlled assignment with an agency or organization engaged in work in applied geography. Prerequisite: 12 credit hours of geography courses and permission of instructor.

Third Group

- 219 **Seminar: Climatology** (3) Viterito
Atmospheric circulation systems, controls, and distribution. Elements of synoptic climatology, including climate modeling.
- 220 **Seminar: Climatic Change** (3) Viterito
Climatic history; examination of natural and induced climatic change.
- 222 **Seminar: Resources and the Environment** (3) Staff
Analysis of the spatial variations and interrelationships of resources and the environment.
- 223 **Seminar: The Population-Food Balance** (3) Staff
Spatial problems associated with the dynamics and interaction of population growth and agricultural output.
- 224 **Seminar: Political Geography** (3) Staff
Examination of the political factor in location theory and analysis of the nature of political territories.
- 225 **Seminar: Transportation and Development** (3) Lowe
Transportation and communication in the organization of space.
- 230 **Seminar: Resource Issues in Development** (3) Lewis
A consideration of the differential regional implications of and responses to resource and environmental policy decisions due to regional differences in societal and physical parameters.
- 243 **Seminar: Urban Geography** (3) Lowe
Evolving morphology and internal spatial patterns of cities.
- 244 **Seminar: Urban Systems and Development** (3) Staff
Central place theory and other theories of urban location and the organization of systems of cities.
- 250 **Regional Development** (3) Hart
Geographic perspectives on the policy, planning, and programmatic aspects of regional development.
- 261 **Latin American Geopolitical Trends** (3) Marasciulo
Political and economic factors in a development context; emphasis on natural and human resources and environmental and land use issues.
- 265 **Seminar: Geography of the Soviet Union** (3) Staff
Survey of U.S.S.R. regions and major topical themes of Soviet geography, including population, energy, agriculture, transportation, and regional development.
- 266 **Seminar: Geographic Perspectives on Contemporary China** (3) Banister
China's development prospects: environmental constraints, population growth, and regional differences in the context of Chinese cultural patterns and political organization.
- 287 **Seminar: Problems in Latin American Civilization** (3) Staff
Same as IAff 287.
- 290 **Principles of Demography** (3) Boulier
Same as Econ/Soc/Stat 290.
- 291 **Methods of Demographic Analysis** (3) Boulier
Same as Econ/Soc/Stat 291.
- 295 **Research** (arr.) Staff
May be repeated for credit.
- 299-300 **Thesis Research** (3-3) Staff

GEOLOGY

Professors F.R. Siegel, A.G. Coates, R.C. Lindholm, J.F. Lewis, D.J. Stanley (Research)
 G.C. Stephens (Chair)
 Adjunct Professors J.W. Pierce, M.A. Buzas, W. Back
 Associate Professorial Lecturers J.F. Sutter, J.H. Kravitz
 Assistant Professors R.P. Tollo, L.E. Osterman
 Assistant Professorial Lecturers F.J. Collier, L.E. Edwards, M.J. Baedecker, G.B. Rabchewsky
 Lecturers R.T. Rye, M.K. Brett-Surman

Bachelor of Arts or Bachelor of Science with a major in geology (departmental)—The following requirements must be fulfilled:

1. The general requirements stated under Columbian College of Arts and Sciences.
2. Required introductory course—Geol 1–2.
3. Required courses in related areas—(a) Chem 11–12; (b) Math 30 (for the degree of Bachelor of Arts) or Math 30 and 31 (for the degree of Bachelor of Science); (c) Stat 91; and (d) BiSc 11 or 12 or Phys 1 (for the Bachelor of Arts) or BiSc 11 or 12 and Phys 1 (for the Bachelor of Science).
4. Required courses in the major—Geol 111, 112, 117, 118, 122, 151–52 for both the degrees of Bachelor of Arts and Bachelor of Science; Geol 166, 189, 195 for the Bachelor of Science degree only.

For graduation with Special Honors, a student must have an overall grade-point average of 3.3 plus the recommendation of the department; must take Geol 199 for 2 or 3 credit hours; and must submit an approved honors thesis or project report.

Minor in geology—18 semester hours selected with approval of the departmental advisor to undergraduates, including 6 hours of introductory geology (Geol 1–2; 5 and 105); two courses selected from Geol 111, 122, 151; and two from Geol 124, 125, 128, 150, 261, and 263, from requirements of the B.A. and B.S. (For students with special interdisciplinary interests, substitutions can be arranged.)

Master of Science in the field of geology—Prerequisite: the degree of Bachelor of Arts or Bachelor of Science with a major in geology and scores on the Graduate Record Examination.

Required: the general requirements stated under the Graduate School of Arts and Sciences. Course work must include Geol 205, 240, 261, and 272. Candidates are required to pass a Master's Examination.

Both thesis and nonthesis options are available. Under the thesis option, a minimum of 30 semester hours of course work is required, including Thesis Research; candidates must pass the Master's Examination before completing their thesis work. Under the nonthesis option, a minimum of 36 semester hours of course work is required; course work must include Geol 128, 189, 219, 274, and 295. Two electives must be chosen from Geol 216, 263, 211 or 224, 241 or 243, and 158 or 254 or 266.

A concentration in hydrogeology is available as a nonthesis option. A minimum of 36 semester hours is required, including Geol 128, 189, 274, 275, 276, and 249, plus Stat 128 (Geol 205 and 272 are not required for this concentration.) The Department recommends that the program include field hydrogeology, which is not available at the University and should be taken elsewhere.

Master of Science in the field of geochemistry (an interdepartmental degree offered by the Departments of Geology and Chemistry)—Prerequisite: a bachelor's degree with a major in geology or in chemistry and, at a minimum, introductory courses in the other field.

Required: the general requirements stated under the Graduate School of Arts and Sciences, including Chem 111–12; Geol 240, 241 or 243, 249; Chem 213 or other upper-level chemistry course approved by the advisor; and Geol 299–300. Geol 105, 111, 122, 132, 136, 151, and 152 may not be taken for graduate credit. The Master's Comprehensive Examination must be taken before registration for the second half of the thesis work. A second half of the thesis work or another course approved by the advisor must be passed.

Master of Science and Doctor of Philosophy in the field of geobiology—see Geobiology

Doctor of Philosophy in the field of geology—Required: the general requirements stated under the Graduate School of Arts and Sciences and the satisfactory completion of the General Examination in three fields, one of which must be in petrology, stratigraphy, or structural geology.

Research fields: geochemistry, hydrogeology, marine geology, mineralogy, paleontology, petrology, sedimentology, stratigraphy, and structural geology.

Doctor of Philosophy in the field of geochemistry (an interdepartmental degree offered by the Geology and Chemistry Departments)—Required: the general requirements stated under the Graduate School of Arts and Sciences, including the satisfactory completion of Stat 129 and either Stat 118 and 119 or Stat 91, and the satisfactory completion of the General Examination in four fields, including geochemistry and chemistry.

First Group

1-2 Introductory Physical and Historical Geology (3-3)

Stephens, Tollo, Lindholm, Osterman

Lecture (3 hours), laboratory (2 hours). An introduction to the principal features of the composition, structure, and history of the earth. Topics include nature of minerals and rocks, physical processes, energy resources, plate tectonics, origin of life, and evolution. Prerequisite to Geol 2: Geol 1 or 5. Laboratory fee, \$25 per semester. Credit will not be given for both Geol 1 and 5. (Academic year)

5 Environmental Geology (3)

Siegel, Lewis, Lindholm

Lecture (2 hours), laboratory (2 hours). An introduction to the principal features of physical geology, with emphasis on the relation of people and society to natural environments; population evolution, natural hazards, and mineral resources; economic, legal, and political aspects. Laboratory fee, \$20. Credit will not be given for both Geol 1 and 5. (Fall and spring)

Second Group

101 Rocks and Minerals (3)

Lindholm

Lecture and laboratory; field trips as arranged. Identification of gemstones and other minerals, especially crystals. Classification and interpretation of rocks, based on their minerals, textures, primary structures, and present-day processes. Laboratory work emphasizes use of a hand lens in making observations; advanced techniques are introduced. Field trips demonstrate rock structures and genetic associations. Prerequisite: Geol 1 or 5. Laboratory fee, \$20. (Spring)

105 Geological Hazards in Land-Use Planning (3)

Siegel

Lecture and laboratory. An analysis of geological hazards and related factors that affect land-use planning. Field trip. Prerequisite: Geol 1 or 5, or permission of instructor. Laboratory fee, \$20. (Spring)

111 Mineralogy (4)

Tollo

Lecture and laboratory. Morphological crystallography and systematic mineralogy. Prerequisite: Geol 1; Chem 11 (may be taken concurrently); or permission of instructor. Laboratory fee, \$22. (Fall)

112 Optical Mineralogy (4)

Tollo

Basic light theory, optical characterization of minerals, thin section analysis. Prerequisite: Geol 111. Laboratory fee, \$26. (Spring)

117 Petrology (2)

Lewis

Introduction to silicate phase systems; physics and chemistry of crustal and magmatic processes; volcanic processes and products. Prerequisite: Geol 1, 111, 112; Phys 1 or equivalent; or permission of instructor. (Fall)

118 Petrology Laboratory (2)

Lewis

Concurrent registration in Geol 117 required for geology majors. Prerequisite: Geol 111 and 112. Laboratory fee, \$26. (Fall)

122 Structural Geology (4)

Stephens

Study of natural and experimental rock deformation and the relationships between stress and strain as recorded by geologic structures. Prerequisite: Geol 1-2. Laboratory fee, \$10. (Fall)

- 124 **Geologic Map Interpretation** (2)
Interpretation and analysis of geologic maps and cross sections. Prerequisite: Geol 122. Laboratory fee, \$10. (Spring)
- 125 **Marine Geology** (3)
Lecture and map work. Principles of oceanography and submarine geology, topography, crustal structure, sedimentary processes, and marine environment. Prerequisite: Geol 1 or permission of instructor. (Spring)
- 128 **Geomorphology** (3)
Lecture (2 hours), laboratory as arranged. Nature and evolution of earth's landforms and principles of photointerpretation. Prerequisite: Geol 1. Laboratory fee, \$10. (Spring)
- 136 **Introduction to Engineering Geology** (3)
For students in the School of Engineering and Applied Science. Geologic principles and processes and their application to civil and mechanical engineering. Prerequisite: Phys 2 or equivalent, or permission of instructor. Laboratory fee, \$20. (Fall and spring)
- 150 **Dinosaurs: Evolution and Natural History** (3)
An introductory course on the natural history of dinosaurs—their evolution, biology, and ecology, their false portrayal in the press, and how scientists study them. (Spring and summer)
- 151–52 **Invertebrate Paleontology** (3–3)
Biology, taxonomy, functional morphology, and evolutionary patterns of invertebrate fossil groups, with emphasis on the macroinvertebrates. Prerequisite: Geol 1–2 or permission of instructor. Laboratory fee, \$20 per semester. (Academic year)
- 154 **Vertebrate Paleontology** (3)
Lecture (2 hours), laboratory or field work as arranged. General features of vertebrate morphology and evolution; problems of paleoecology and adaptation. (Fall, odd years)
- 166 **Principles of Stratigraphy** (3)
Fundamentals of stratigraphic principles and practice. Review of historical concepts, section measuring, vertical and lateral lithostratigraphic relationships, magnetic and climatic stratigraphy, biostratigraphic classification, zonation, correlation, geochronology, facies, and stratigraphic maps. Prerequisite: Geol 122 or permission of instructor. (Fall)
- 189 **Geophysics for Geologists** (3)
Basic geophysics to assist the geologist mapping and solving geologic problems. Prerequisite: Geol 1–2; Math 31; Phys 1; or permission of instructor. (Spring)
- 195 **Field Methods** (3)
Weekend field trips. Methods of outcrop analysis, geologic mapping, and interpretation. Students will be responsible for room and board expenses while in field camp (one week). Prerequisite: Geol 122. Laboratory fee (field trip fee) \$20. (Spring, odd years)
- 199 **Undergraduate Research or Reading** (arr.)
Problems approved by the staff. May be repeated once for credit. (spring)

Third Group

- 205 **Seminar in Geology** (1)
Special topics each semester. May be repeated for credit.
- 211 **Advanced Mineralogy** (3)
Crystal chemistry, phase relations, and paragenesis of major rock-forming minerals. Prerequisite: Geol 111 or permission of the instructor. (Spring, odd years)
- 216 **Sedimentary Petrography** (3)
Identification, classification, and interpretation of common sedimentary rocks by means of the petrographic microscope. Prerequisite: Geol 112, 261; or permission of instructor. Laboratory fee, \$25. (Fall, odd years)

- 219 **Petrogenesis I** (3) Lewis
The origin of selected igneous and metamorphic rock types. Prerequisite: Geol 117, 118, or permission of instructor. Laboratory fee, \$22. (Fall)
- 220 **Petrogenesis II** (3) Lewis
Laboratory fee, \$22. (Spring)
- 224 **Advanced Structural Geology** (3) Stephens
Study of problems in structural analysis and tectonics. Prerequisite: Geol 122. (Spring, odd years)
- 240 **Principles of Geochemistry** (3) Siegel
Principles and theories on the abundance, relationships, and distribution of the elements in various rock and mineral species. Prerequisite or concurrent registration: Geol 117 or equivalent: Chem 11-12; Math 31; Phys 1 or 3; or permission of instructor. Laboratory fee, \$15. (Fall)
- 241 **Marine Geochemistry** (3) Siegel
Chemical composition and physical properties of sea water, chemical composition and alterations of marine sediments, thermodynamics and biochemical activity in oceans. Methods of analysis and problems of measuring. Prerequisite: Geol 240 or permission of instructor. Recommended: Chem 22. Laboratory fee, \$20. (Spring, even years)
- 243 **Geochemical Prospecting** (3) Siegel
Application of geochemical principles and analyses to the detection of hidden mineral and energy resources. Field trips as arranged. Prerequisite: Geol 240. Laboratory fee, \$20. (Spring, odd years)
- 249 **Seminar: Geochemistry** (2) Staff
Independent topics each semester; may be repeated for credit.
- 254 **Evolutionary Paleobiology** (3) Coates
Consideration of modern evolutionary theory with emphasis on the fossil record. (Fall, even years)
- 255 **Quantitative Paleoeecology** (3) Buzas
Characteristics of populations applicable to the fossil record. Subject matter includes ecosystem concept, habitat, Hutchinsonian niche, life-death, size-frequency distributions, competitive exclusion principle, spatial distributions, relative abundance and diversity, quantification of community biofacies. Prerequisite: Geol 151-52, Stat 91; or permission of instructor. (Fall, odd years)
- 257 **Micropaleontology** (3) Osterman
Biology, morphology, paleoecology, biogeography, and biostratigraphy of marine and nonmarine phosphatic, organic, siliceous, and calcareous microfossils. Prerequisite: Geol 1-2 or permission of instructor. (Fall, even years)
- 258 **Seminar: Micropaleontology** (3) Osterman
Prerequisite: Geol 257 or permission of instructor. May be repeated for credit. (Fall, odd years)
- 261 **Sedimentology** (3) Lindholm
Lecture and laboratory, field trips as arranged. Principles of sedimentology, analysis and interpretation of sedimentary processes and environments. Prerequisite: Geol 1; Stat 91; or permission of instructor. Laboratory fee, \$22. (Spring)
- 263 **Sedimentary Environments** (3) Lindholm
Study of selected depositional environments. Field trips as arranged. Prerequisite: Geol 261. Laboratory fee (field trips), \$20. (Fall, even years)
- 266 **Advanced Stratigraphy** (3) Edwards
Analysis of special topics in stratigraphy. Historical background, concept of facies, cycles of sedimentation, clastic and carbonate subsurface lithofacies, subsurface biostratigraphy, ecological and evolutionary attributes of stratigraphically useful organisms, quantitative methods, isochronology, geochronology, and magnetic stratigraphy. Prerequisite: Geol 166 or equivalent. (Spring, even years)
- 272 **Regional Geology of North America** (3) Tollo
Stratigraphy, structure, and tectonic evolution of selected geologic provinces of North America. (Spring, even years)

274 Hydrogeology (3)

The occurrence, storage, movement, quality, and problems of pollution of surface water and the hydrologic properties of water-bearing materials. Prerequisite: Geol 111, 122; Math 31; Chem 11-12; or permission of instructor. Laboratory (field trips), \$8. (Spring)

275 Geochemistry of Groundwater (3)

Application of geochemical principles to the interpretation and prediction of groundwater activity in regional systems; carbonate and silicate equilibrium, weathering and redox reactions; isotopes; and contaminated aquifers. Prerequisite: Geol 240, 274 (may be taken concurrently), or permission of instructor. (Fall, odd years)

276 Advanced Groundwater: Modeling (3)

Review of basic theory of aquifer systems, analysis of aquifer testing, and numerical methods applied to groundwater problems. Prerequisite: Geol 274 or permission of instructor. A knowledge of FORTRAN is desirable. (Spring, odd years)

295 Research (arr.)

Research on problems approved by the staff. Open to qualified students seeking advanced training. May be repeated for credit. (Fall and spring)

299-300 Thesis Research (3-3)

(Fall and spring)

Fourth Group**398 Advanced Reading and Research (arr.)**

Limited to students preparing for the Doctor of Philosophy general examination. May be repeated for credit. (Fall and spring)

399 Dissertation Research (arr.)

Limited to Doctor of Philosophy candidates. May be repeated for credit. (Fall and spring)

GERMANIC LANGUAGES AND LITERATURES

Professors J.C. King, K. Thoenelt, C. Steiner (Chair)

Associate Professorial Lecturer P. Werres

Assistant Professorial Lecturer G.A. Koskella

Lecturer G. Boehncke

Bachelor of Arts with a major in Germanic languages and literatures (departmental approval required)
The following requirements must be fulfilled:

1. The general requirements stated under *Columbian College of Arts and Sciences*
2. Prerequisite courses—Ger 1-2, 3-4 (Ger 5-6 may be substituted), 9-10, 51-52, or equivalent.

3. Required courses in other areas—6 semester hours in one of the following subjects: history, music history, philosophy, or history of Germany.

4. Requirements for the major—a minimum of 24 semester hours in German courses above the first group, including Ger 179-80; reasonable proficiency in speaking, reading, and writing German as determined by the department.

Special Honors—In addition to the general requirements stated under *Regulations for Special Honors*, a candidate for special honors in German must submit an acceptable senior thesis on an assigned topic.

Minor in German—Required: Ger 9-10, 51-52, and 6 semester hours of second-year German courses. Prerequisite: Ger 1-2, 3-4 (Ger 5-6 may be substituted), or equivalent.

Placement Examination: A student who has not been granted advanced standing who wishes to continue in college the language study begun in high school must take a placement examination before registration. Upon completion of the examination, a placement is made to the appropriate course.

First Group

1-2 **First-Year German (3-3)**

Staff

Structure of the German language; basic vocabulary, reading, writing, and conversation; the culture of German-speaking areas. Three hours in the classroom and one in the language laboratory each week. Laboratory fee, \$35 per semester. Prerequisite to Ger 2: Ger 1 or equivalent. (Fall and spring)

3-4 **Second-Year German (3-3)**

Staff

Continued consideration of the structure of the German language; further development of vocabulary, reading, writing, and conversation; culture and literature of Germany, Austria, and Switzerland. Three hours in the classroom and one in the language laboratory each week. Laboratory fee, \$35 per semester. Prerequisite to Ger 3: Ger 1-2 or 5, or equivalent. Prerequisite to Ger 4: Ger 3 or equivalent. (Fall and spring)

5-6 **Intensive Beginning and Intermediate German (6-6)**

Thoenelt and Staff

Six hours in the classroom and two in the language laboratory each week. Ger 5 is equivalent to Ger 1-2; Ger 6 is equivalent to Ger 3-4. Laboratory fee, \$70 per semester. Prerequisite to Ger 6: Ger 1-2 or 5, or equivalent. (Academic year)

9-10 **German Conversation and Composition (3-3)**

Steiner and Staff

A third-year language course; German as a means of spoken and written communication. German cultural history from its historical roots to the present day. Prerequisite: Ger 3-4 or 6, or equivalent. With permission of instructor, Ger 9 or 10 may be taken concurrently with Ger 4. (Academic year)

47 **Beginning German for Reading Acquisition (3)**

Staff

For undergraduate and graduate students with little or no German who are interested in acquiring a reading knowledge of German. No academic credit for graduate students. (Summer)

49 **German Readings for Nonmajor Students (3)**

Staff

Primarily for graduate students preparing for reading examinations; undergraduates admitted. No academic credit for graduate students. Prerequisite: Ger 4, 6, or 47, or equivalent. (Summer)

51-52 **Introduction to German Literature—in English (3-3)**

Thoenelt

Ger 51—Origins of the German way of life: the Germanic loss of paradise (*Song of the Nibelungen*), the discovery of modern identity consciousness (*Parzival*), and passion as a value to be realized in life (*Tristan and Isolde*). Medieval love songs, the birth of modern individualism, and the eighteenth-century youth movement leading to the German idyll. Ger 52—German thought and civilization, from 1770 to the present; German education and social activity. The two faces of contemporary Germany: Goethe and German culture versus German politics; Germany during National Socialism and since World War II. (Academic year)

Second Group

103-4 **Major Themes of German Literature—in English (3-3)**

Thoenelt and Staff

Topics for 1990-91: Ger 103—The Faust myth in Western literature. Faust's, or man's, pursuit of happiness; its religious, philosophical, and aesthetic possibilities and limitations. Original sin in the Bible; Faust in classical and Germanic mythology; Faust figures in the works of Goethe, Dostoevsky, Stephen Vincent Benét, Paul Valéry, Thomas Mann, Camus, and other writers. Ger 104—Literature and politics in Germany: Kultur and politics, the two faces of Germany. A survey of these two aspects of German history and German life. Selected readings from relevant literary and political documents by Walther v. d. Vogelweide, Kant, W. v. Humboldt, Frederick II, Mme. de Staël, Goethe, Schiller, Marx, Heine, Nietzsche, Thomas Mann, Heinrich Mann, Brecht, and Böll. (Alternate academic years)

112 **Comparative Studies in Germanic Literatures—in English (3)**

Thoenelt and Staff

Topic for 1990: Why literature? What is literature? Views and perspectives on the "usefulness" and "uselessness" of literature in modern Western societies. Se-

- lected works and excerpts from Plato, Aristotle, Shakespeare, Montaigne, Goethe, Schiller, Nietzsche, Thomas Mann, Camus, Böll, and others. (Spring, alternate years)
- 114 **Four Western Ways of Life—in English** (3) Thoenelt and Stein
The human condition and four Western ways of life: French moralism, German *Bildung*, Marxism, and existentialism. Selected readings from Montaigne, Goethe, Schiller, Thomas Mann, Marx, Brecht, Nietzsche, Martin Buber, and Camus. (Fall, alternate years)
- 125 **Utopias and Dystopias in German Letters and Thought—in English** (3)
The unfolding German intellectual genius; now at a moral peak, now perverted. Selected readings and excerpts from the works of Lessing, Bonaventura, Hegel, Marx, Nietzsche, Hitler, Thomas Mann, and Hermann Hesse. (Fall, alternate years)
- 126 **France and Germany—in English** (3)
Comparative study of two European ways of life as reflected and perpetuated in literature and philosophy. Relevant excerpts and documents from the 16th to the 20th century. (Spring, alternate years)
- 131–32 **18th-Century German Life and Letters—in German** (3–3) Thoenelt and Stein
Germany as the country of poets and thinkers; Goetheanism or the German way of life; its roots in the middle ages, its full development in the 18th century, and its modern manifestation in anthroposophy. Relevant readings in literature, education, philosophy, religion, and politics by Wolfram von Eschenbach, Luther, Lessing, Kant, Goethe, Schiller, Schleiermacher, Wilhelm von Humboldt, Thomas Mann, and Rudolf Steiner. (Alternate academic years)
- 141–42 **19th-Century German Literature—in German** (3–3) Stein
Romanticism, Biedermeier, Young Germany, Poetic Realism. Second age of classicalism and *Sehnsucht*, revolution and counterrevolution in thought and literature. Development of modern nationalism and cosmopolitanism as reflected in the literature of the period. Reading, lecture, and discussion. (Alternate academic years)
- 151–52 **20th-Century German Literature—in German** (3–3) Stein
The age of Nietzsche, Naturalism, Impressionism, Expressionism; Kafka, Thomas Mann, Hermann Hesse; émigré literature, contemporary drama; autobiography of Gruppe 47. Reading, lecture, and discussion. (Alternate academic years)
- 161–62 **Studies in Germanic Languages and Literatures—in English** (3–3) Stein
Topics for 1991–92: Germanic mythology—characters, tales, and motifs. Roman as a cultic device. Introduction to the pre-Christian religion of the Germanic peoples and to an interdisciplinary study of mythology. Richard Wagner's use of Germanic lore in his opera *Siegfried*. (Academic year)
- 179–80 **Advanced German Conversation and Composition** (3–3) Thoenelt and Stein
A fourth-year language course designed to achieve near-native fluency in speaking and writing German. Discussions and compositions on literary and cultural topics, reading of the German weekly newspaper *Die Zeit*, interpretative studies, selected texts (Gottfried Benn and Thomas Mann), grammatical and stylistic studies. Prerequisite: Ger 9–10 or equivalent. (Alternate academic years)
- 183 **Individualism, Reason, and Tradition in Early Modern Europe** (3) Kenney
Same as Engl/Fren/Hist/Rel 183 and Art 187.

GERONTOLOGY—GRADUATE PROGRAM

Professors R.G. Brown (Academic Director), R.A. Kenney
Adjunct Professor M.H. Morrison

Academic Committee: R.G. Brown, J.C. Heddeshimer, R.A. Kenney, S.D. Infeld

The Graduate School of Arts and Sciences offers an interdisciplinary program leading to the degree of Master of Arts in the field of public policy with a concentration in gerontology directed by the Committee on Gerontology and drawing upon faculty from various departments within the University and resource persons in the community.

The gerontology program derives its theoretical perspectives and substantive knowledge from several disciplines to provide a balanced study of the processes of aging and the societal reactions and responses to the aged and their problems, with the objective of preparing persons for positions that involve the planning, development, and evaluation of programs serving older persons. Each student will work closely with an advisor to design a program of studies appropriate to individual interests and professional objectives. Every student will have field experience in an agency involved in the planning and evaluation of services for the elderly. Prospective candidates should consult with the director of the gerontology program.

Master of Arts in the field of public policy with a concentration in gerontology—
Prerequisite: a bachelor's degree with a B average (or equivalent) from an accredited college or university. In some cases, the applicant may be requested to take the Graduate Record Examination. Previous experience in gerontology is not essential; a variety of academic and experiential backgrounds are acceptable.

Required: the general requirements stated under the Graduate School of Arts and Sciences, including 42 semester hours of course work. There is no thesis requirement. Core courses required for all students: Econ 217; PSc 203; Stat 104 or 111, and 183 (Stat 129 or Psc 244 may be substituted for Stat 183); Gern 201, 205, 290; Soc 254 (PSc 204 may be substituted for Soc 254), 280; Educ 344. The remaining three courses are electives. All students are required to pass a Master's Comprehensive Examination.

201 The Biology of Aging (3)

Staff

The processes of aging in the various systems of the human body; principal illness patterns in the elderly; theories of the aging process. (Fall)

205 Public Policy and Aging (3)

Morrison

The "political economy" of aging in our society. Political and governmental processes as they influence and are influenced by older persons; the impact of demographic trends and retirement patterns on the economic system. (Fall)

290 Practicum in Gerontology (3)

Morrison

Field experience in an agency involved in the planning and evaluation of services for the elderly.

GREEK

See Classics.

HEALTH SERVICES ADMINISTRATION—GRADUATE PROGRAMS

Professors K.J. Darr, P.N. Reeves, P.S. Birnbaum, R.G. Shouldice, J. Ott, R.F. Southby (Chair), L.G. Pawlson, R. Riegelman, M.J. Shaffer, W. Greenberg
 Professorial Lecturer H.L. Hirsh
 Associate Professors D.L. Infeld, D.L. Zalkind, G.E. Crum, S.R. Eastaugh
 Associate Professorial Lecturers C.P. McKelvey, D.P. Andrulis, J.C. Wilmot, D.S. Good, J. Rodgers, J. Falek
 Assistant Professorial Lecturers Z.F. Acevedo, J. O'Brien

See the School of Government and Business Administration for programs of study leading to the degrees of Master of Health Services Administration,* Specialist in Health Services Administration, and Doctor of Philosophy.

Third Group

202 Introduction to Health and Medical Care (3)

Crum

Examination of concepts of health and disease from physical and philosophical perspectives. Description and analyses of various components of the health care system, including medical technology and the health professions. (Fall and spring)

* Accredited by the Accrediting Commission on Education for Health Services Administration.

- 203 Organization and Management of Health Services (3)**
Application of management theory and concepts to health services systems and institutions. Characteristics, functions, and organizational structures of delivery systems. (Fall and spring)
- 206 Quantitative Methods in Health Services Operations (3)**
Concepts and applications of statistical methods in health services operations. Probabilistic reasoning and statistical methodology. Sampling and study design. Critiques of statistical studies and reporting. Prerequisite: Stat 51 or equivalent with permission of instructor; the statistics course must be passed with a grade of B or better within two years prior to enrolling in HSA 206. (Fall and spring)
- 207 Health Services Information Applications (3)**
Introductory survey of health information systems. Decision-making needs of selection, analysis, and reporting of data. Principles of managing the acquisition and development of health services information systems. Prerequisite: HSA 206 and knowledge of microcomputer spreadsheet or database software. (Fall and spring)
- 210 Health Economics (3)**
Economics of the health care sector. An economic analysis of public policy alternatives in the health industry. Roles of the physician, hospital, insurance, and other health care markets are examined. Prerequisite: Econ 217 or equivalent. (Fall and spring)
- 211 Health Finance (3)**
An introductory course designed to provide a balance between theoretical and practical approaches to the financial management of health care institutions with emphasis on hospital examples. Specific attention is given to rate regulation, hospital reimbursement, hospital accounting, financial ratio analysis, financial feasibility studies, and strategic marketing. Prerequisite: Acy 201 or equivalent. (Fall and spring)
- 212 Introduction to Health Services Planning (3)**
Survey of community and institutional health systems planning and evaluation. Introduction to policy planning, strategic planning, project planning, marketing, and evaluation as they apply to health services. (Fall and spring)
- 215 Health Services and the Law (3)**
The sources of law and the legal processes affecting the health services system. Elements of administrative law and agency processes. Introduction to the legal relationships (e.g., torts, contracts, and insurance) of facilities, physicians, personnel, and patients. Personnel administration; legal aspects of labor relations trends in health services delivery law. (Fall and spring)
- 221 Health Systems Strategic Planning (3)**
Application of strategic planning concepts to health services. Study of the strategic planning process as a series of interrelated analyses and decisions, including representative analytic methods used in the most critical stages. Discussion of the relationships among strategic planning, project planning, marketing, and financial planning. (Fall and spring)
- 223 Policy in Strategic Health Services Planning (3)**
Effects of legal, political, social, governmental, and economic factors in strategic health planning. Emphasis on formulation, analysis, and implementation of state, local, and institutional health policies. The role of these policies as expressions of values that serve as guiding forces in the strategic planning process. (Summer)
- 225 Developing National Health Services Policy (3)**
Understanding and analyzing the processes by which health services policy is formulated and implemented at the federal level. Focus on Congress, the executive branch, and the agencies. (Spring)
- 227 Seminar: Ethics in Health Services Administration (3)**
Managerial implications of ethical issues in health services delivery: administrative and institutional ethics; professional codes; decisions concerning incompetent professionals, dying patients, fertility control, experimentation, and new technology; resource allocation. (Spring)

- 231 **Managing the Short-Term Hospital** (3) Darr
Organization and management of the acute care hospital—administration, governance, and medical staff. Relationships of hospital clinical, support, and administrative departments. Analyses of procedures and systems. Administrative ethics. Requirements of the Joint Commission on Accreditation of Healthcare Organizations. Prerequisite: HSA 203 and Mgt 210, or permission of instructor. (Fall and spring)
- 233 **Delivery of Mental Health Services** (3) Andrulis
Study of the organizations and systems for delivery of mental health services; emphasis on managing and financing treatment and rehabilitation facilities. (Summer)
- 236 **Introduction to Long-Term Care Administration** (3) Infeld
An overview of the field of long-term care and its evolution within the health care and social service systems. The "continuum" of long-term care services, both in institutions and in the community, funding sources for these services, and policy issues involved in delivery of services. Site visits to long-term care programs. (Fall and spring)
- 237 **Managing the Long-Term Care Institution** (3) Infeld
Organization and management of nursing homes, personal and residential care facilities, and institutions for other populations needing long-term specialty treatment. Emphasis on personal and professional skills necessary to provide a wide range of services and quality care in these environments. (Summer)
- 238 **Ambulatory Health Services Management** (3) Shouldice
Introduction to the organization and management of ambulatory care. Presentation of models, financing mechanisms, institutional affiliations, estimating and planning for ambulatory care, and the use of group practice of medicine as part of a total system of services delivery. (Spring and Summer)
- 239 **Management of Health Maintenance Organizations** (3) Shouldice
Principles and fundamentals of prepaid group practice and health maintenance organizations and other alternative financing/delivery mechanisms. Emphasis on planning, development, and operation of HMOs and CMPs, including discussion of models, financial issues, consumers, and providers of care. (Fall and summer)
- 245 **Case Studies in Health Services Administration** (3) Southby, Birnbaum, Infeld
Intensive qualitative and quantitative analyses of major problem areas in health system administration and planning, using the case study method. Cases cover the broad spectrum of health policy, planning, and management of the health services system. Serves as a capstone course for health services students. (Fall and spring)
- 252 **Comparative Health Services Systems** (3) Southby
Evaluations of various organizational patterns, functions, and trends in international health services delivery systems. Emphasis on sources of such differences and the significance of systems to the health status of a nation. (Spring)
- 255 **Issues in Gerontology** (3) Infeld
Interdisciplinary seminar on the nature and problems of aging, including demographic, biological, psychological, social, economic, environmental, and political perspectives on the status and needs of the older population. Theory and research; service delivery; attitudes and behaviors based on contact with older persons. (Fall)
- 257 **Advanced Health Resources Management** (3) Eastaugh
Methods, techniques, and policies used in health resources management. Prospective rate regulation under DRGs, capital investment decisions, buy-lease decisions, financial feasibility studies, cost accounting, multihospital systems management, and strategic financial planning. Financial management of HMOs, teaching programs, nursing homes, hospices, and home health care programs. Prerequisite: HSA 211. (Fall and spring)
- 260 **Administration of Health Systems** (3) Crum
Same as PubH 213. See the School of Medicine and Health Sciences Bulletin.

- 262 **Economics of Health Care** (3)
Same as PubH 211. See the School of Medicine and Health Sciences Bulletin.
- 263 **Health Services Financial Management** (3)
Same as PubH 263. See the School of Medicine and Health Sciences Bulletin.
- 264 **Health Planning and Marketing** (2)
Same as PubH 214. See the School of Medicine and Health Sciences Bulletin.
- 265 **Health Law** (3)
Same as PubH 265. See the School of Medicine and Health Sciences Bulletin.
- 267 **Health and Society** (2)
Same as PubH 205. See the School of Medicine and Health Sciences Bulletin.
- 268 **Case Studies in Administrative Medicine** (2 or 3)
Same as PubH 296. See the School of Medicine and Health Sciences Bulletin.
- 270 **Research in Health Services Administration** (3)
Field research. Primarily for advanced students; open to others with consent of instructor. May be repeated for credit. (Fall and spring)
- 271 **Field Problem Studies in Health Services Administration** (3)
Work experience guided by a qualified preceptor on selected management and planning issues and problems occurring in health services facilities, programs, and agencies. Primarily for advanced master's and doctoral students; open to other students by arrangement. May be repeated for credit. (Fall and spring)
- 273- **Residency I** (3-3-3)
- 74-75 Twelve-month residency. Work experience guided by a qualified preceptor. Periodic written progress reports and a written major report or selected field projects as required. (Fall and spring)
- 276- **Residency II** (3-3-3)
- 77-78 For students who take additional residency experience. (Fall or spring)
- 285-86 **Readings in Health Services Administration** (3-3)
Supervised readings in special areas of health services management and policy and planning. Primarily for advanced students; open to others by arrangement. May be repeated for credit. (Fall and spring)
- 290 **Special Topics in Health Services Administration** (3)
Experimental offering; new course topics and teaching methods. May be repeated for credit. (Fall or spring)
- 299-300 **Thesis Research** (3-3)
(Fall and spring)

Fourth Group

Fourth-group courses are primarily for doctoral students and are offered as the demand requires. They are open to selected master's students upon petition approved by the Associate Dean.

- 310 **Seminar: Economics of Health Policy** (3)
Study of major contemporary issues in health policy and health economics. Development and critique of policies designed to deal with current health issues. (Spring)
- 311 **Seminar: Public-Private Sector Institutions and Relationships** (3)
An analysis and critique of alternative theoretical frameworks for describing, understanding, and predicting the nature, values, and actions of American public and private institutions. Problems, potentials, and alternatives for structuring public and private institutional arrangements to meet the needs of society. Prerequisite: doctoral degree candidate status.
- 330 **Health Services Delivery Policy** (3)
Study of major contemporary issues in health services delivery. Development and critique of policies designed to deal with those issues. For doctoral and specialist students; to be taken toward the end of course work for the degree. (Fall)

- 398 **Advanced Reading and Research** (arr.) Staff
 Limited to doctoral candidates preparing for the general examination. May be repeated for credit. (Fall and spring)
- 399 **Dissertation Research** (arr.) Staff
 Limited to doctoral candidates. May be repeated for credit. (Fall and spring)

HEBREW

See Classics.

HISTORY

- University Professor M.F. Cunliffe
 Professors H.M. Sachar, R.W. Kenny, P.P. Hill, L.G. DePauw, R. Thornton, L.G. Schwoerer, P.F. Klarén, R.E. Kennedy, Jr., W.H. Becker (Chair), L.P. Ribuffo, E. Berkowitz
 Professorial Lecturers S. Shaloff, J. Schlight, M. Bohachevsky-Chomiak, B.F. Cooling
 Associate Professors C.J. Herber, W.R. Johnson, R.A. Hadley, A.D. Andrews, J.O. Horton, M.A. Atkin
 Associate Professorial Lecturer R.M. Hathaway
 Assistant Professor H.L. Agnew, R.B. Stott, E. Ghareeb (Visiting)
 Director and Principal Investigator of the First Federal Congress Project C. Bickford
- Bachelor of Arts with a major in history**—The following requirements must be fulfilled:
1. Majors must meet the general requirements of Columbian College, selecting specific courses in consultation with either a departmental or college advisor. For the foreign language or culture requirement, majors must meet the foreign language, rather than foreign culture, requirement.
 2. Majors must either take or waive the introductory courses: Hist 39–40, 71–72. Waiver may be accomplished by passing a departmental examination, which is held the day before registration. Credit as well as waiver may be obtained also by departmental examination, or by scoring above 600 on College Board Achievement Tests, or by scoring 4 or 5 on Advanced Placement Examinations. Neither waiver nor credit is awarded by CLEP examination.
 3. Distributed courses within the major must include (for a total of 27 semester hours):
 - (a) Hist 199 (proseminar);
 - (b) two seminars, one of which must be a research seminar;
 - (c) two 100-level courses in each of the following three fields:
 - (1) Europe—Hist 101, 105, 106, 109, 110, 111, 112, 121, 122, 123, 124, 125, 127, 131, 132, 136, 139, 140, 141, 142, 147, 148, 149, 150, 151, 152, 153, 154, 155, 157, 158, 183
 - (2) United States—Hist 117, 118, 126, 128, 129, 133, 134, 137, 138, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 184, 185, 186, 197
 - (3) Russia, Asia, Africa, and Latin America—Hist 107, 108, 116, 119, 120, 135, 145, 146, 158, 161, 162, 163, 164, 165, 166, 187, 188, 189, 193, 194, 195, 196
- Special topics courses numbered 198 and courses in the 700 Series may also satisfy one of the three field requirements. Majors should check with the major advisor on the applicability of such courses.
- For Special Honors in history, a history major must meet the general honors requirements listed under Regulations. In addition, the Department requires candidates to apply for the special honors program before the end of the first semester of the junior year. During the second semester of the junior year, candidates for the program must receive a grade of A in a 3-hour research seminar, taken preferably with the professor who will advise the senior thesis. Candidates admitted to the program will subsequently enroll in the research seminar, Hist 191, and complete a senior honors thesis in Hist 192 during their last semester. Only if the thesis merits the grade of A will Special Honors be recommended.
- Minor in history**—Undergraduate students who select a minor in history must ordinarily declare their intention to the departmental advisor no later than the beginning of their senior year. Such students may choose a nonspecialized history curriculum, or may concentrate in one area, such as ancient history, medieval history, early modern Europe,

modern Europe, the Near East, Russia and East Europe, the United States, Latin America, or the Far East, or in one field, such as economic, social, intellectual, diplomatic, political, black, or women's history. In each case the program of courses will be planned in consultation with the history advisor. To meet the departmental requirements for a minor, the student must complete at least 15 semester hours in approved courses with a grade of C or above. One 3-semester-hour seminar must be included in the program.

Master of Arts in the field of history—Prerequisite: a bachelor's degree from an accredited college or university with a major in history, or an equivalent degree; high scholastic standing; and approval of the department. Applicants from other institutions must present scores on the Graduate Record Examination and arrange for four persons, preferably former instructors, to send letters or reference forms to the Office of the Graduate School of Arts and Sciences.

Required: the general requirements stated under the Graduate School of Arts and Sciences. The program of study consists of either a minimum of 30 semester hours of second- and third-group courses, including Hist 299–300, Thesis Research, and at least three other third-group courses, or a minimum of 36 semester hours of second- and third-group courses, including at least two research seminars (6 semester hours) and four readings/research seminars. Exceptions to the minimum for third-group courses can be granted only by the department's Graduate Programs Committee. Hist 201 is required of candidates who have not previously had a course in historiography and historical method. A maximum of 6 semester hours may be in approved courses outside the History Department. To receive graduate credit for second-group courses, master's candidates must arrange for extra work with the instructors. Each student works in two fields of history and is required to pass a Comprehensive Examination in each.

Master of Arts in the field of history with a concentration in historic preservation—Required: the general requirements stated under the Graduate School of Arts and Sciences. This 36-hour master's degree program combines courses in United States history and historic preservation. It includes at least 18 hours of U.S. social history, U.S. urban history, man-made America, and the seminar sequence in historic preservation. For other course distribution requirements, see the departmental graduate advisor. Candidates in this program may also be required to pass an examination in measured architectural drawing.

Master of Arts in the field of history with a concentration in public policy—Required: the general requirements stated under the Graduate School of Arts and Sciences. This 36-hour program emphasizes the study of history as it relates to the analysis and conduct of public policy. Hist 213–14 and internship required. Additional course work is to be chosen with advisor's approval.

Doctor of Philosophy in the field of history—Required: the general requirements stated under the Graduate School of Arts and Sciences, including the passing of a written examination in two appropriate foreign languages or in one foreign language and an approved subject (such as statistics or oral history), and the satisfactory completion of the General Examination in four fields. Normally, each doctoral candidate will work in one major (or general) field of study and three special fields. One of the special fields may be taken as a "write-off," as long as it is not in the area in which the candidate plans to write the dissertation. The major fields include the following: early modern Europe, modern Europe, United States, Latin America, modern Near East, modern East Asia, and modern Russia and the Soviet Union. Special fields may vary from the topical (e.g., U.S. social history, European intellectual history, historic preservation, etc.) to the chronologically limited fields (e.g., American colonial history, classical and medieval Europe, Tudor and Stuart England, etc.). A student may elect one special field outside the History Department if it is relevant to the program. Students having a special field in historic preservation may be required to pass an examination in measured architectural drawing. In the final 24 hours of course work for the General Examination, except in preparation for the "write-off" examination, the candidate may enroll only in third-group courses. Any exception requires the approval of the Graduate Programs Committee.

Doctor of Philosophy in the field of American Religious History (offered in cooperation with the Department of Religion)—Required: the general requirements stated under the Graduate School of Arts and Sciences and the specific requirements of the Doctor of Philosophy in the field of history, stated above. The General Examination must cover four fields, including two from the Department of History (generally American social history and one other) and two from the Department of Religion (history of religion in America and one other field in religious history).

Waiver Examinations: Waiver examinations are given three times per year, on the day preceding registration in the fall and spring semesters and the first summer session.

Course Accessibility: All second-group courses are open to students without history course prerequisites with the exception of Hist 135, 157, and 199.

First Group

- 39–40 **European Civilization in Its World Context** (3–3) Staff
Hist 39: Introduction to the political, social, economic, religious, and cultural history of Europe from about 800 A.D. to 1715. Hist 40: From 1715 to the present. (Academic year)
- 50 **Washington, D.C.: History, Culture, and Politics** (3) Gillette
Same as AmCv/PSc/U&RP 50.
- 71–72 **Introduction to American History** (3–3) Staff
Hist 71: political, social, economic, and cultural forces of the United States, in world perspective, from the earliest settlements to 1876. Hist 72: from 1876 to present. (Academic year)

Second Group

- 101 **The European Revolutionary Tradition, 1640–1917** (3) Kennedy
A comparative study of the English, French, and Russian revolutions with focus on theories of revolution, revolutionary ideology, millenarianism, and the revolutionary legacy inherited by third-world movements. (Fall)
- 105–6 **History and Philosophy of Natural Science** (3–3) Schlager
A history of the natural sciences and their implied cosmologies. Emphasis on empirical discoveries and modes of explanation, changing conceptual frameworks and methodologies, and philosophical implications. Hist 105: Early natural philosophy to the rise of modern science. Hist 106: Developments in the physical and biological sciences from the 19th century to the present.
- 107 **The Ancient Near East and Egypt to 322 B.C.** (3) Hadley
Survey of Egyptian, Mesopotamian, Anatolian, West Semitic, and Iranian civilizations from the Neolithic period to Alexander's conquest.
- 108 **Greece and the Near East, 359 B.C. to the Second Century A.D.** (3) Hadley
Survey of cultural, social, political, and economic developments in the Hellenistic world and societies of the Near East from the reign of Philip II to the height of Roman power and influence in these regions.
- 109 **Early Aegean and Greek Civilizations to 338 B.C.** (3) Hadley
Neolithic background; Bronze Age—Minoan, Helladic, and Mycenaean civilizations; classical Greek civilization to the Macedonian conquest. (Fall)
- 110 **The Roman World to 337 A.D.** (3) Hadley
Prehistoric Italy; rise and decline of the Roman Empire and Latin civilization; cultural, social, and political developments in the Greek world under Roman rule. (Spring)
- 111–12 **Medieval History** (3–3) Andrews
Hist 111: Failure of the old Roman Empire, formation of barbarian kingdoms in the West and their evolution to about 1000 A.D.; Byzantium and Islam at their apogee. Hist 112: Medieval European daily life, institutions, and creative movements to about 1400; the Crusades and the Near East to the rise of the Ottoman Turks. (Academic year)

- 116 **History of Africa** (3)
Survey of political, cultural, and economic development from ancient times to the present, with emphasis on the rise and demise of European colonialism (Spring) Shaloff
- 117 **Crisis or Conspiracy? A History of the International Politics of Oil** (3)
The history of the international politics of oil, with special attention to developing relationships between major oil companies and governments here and abroad. (Summer) Becker
- 119 **China in the 20th Century: Reform and Revolution** (3)
Origins, goals, substance, and significance of political, social, and intellectual upheavals in China from 1900 to the present. (Summer) Johnson
- 121 **The Renaissance in Western Europe** (3)
Study of the economic, political, intellectual, and cultural acceleration in Western Europe, beginning in the Italian city-states and spreading to France, Germany, and England, in the 14th through 16th centuries. (Fall) Schwoerer
- 122 **The Reformation in Western Europe** (3)
Religious, political, and social consequences of the theological upheavals of the 16th century. (Spring) Herbert
- 123 **European Intellectual History I** (3)
Popular culture; religion and science in the 17th century; the Enlightenment; Voltaire, Hume, Rousseau, Montesquieu, Beccaria, Diderot, Condorcet on religion, history, nature, society, and politics; the intellectual origins of the French Revolution. (Fall, even years) Kennedy
- 124 **European Intellectual History II** (3)
Intellectual responses to the French Revolution; 19th-century historical approaches to society, religion, economics, biology, ethics, and psychoanalysis; Hegel, Comte, Marx, Darwin, Nietzsche, and Freud; the intellectual origins of Nazism; literary, artistic, and philosophical responses to World War I. (Spring, odd years) Kennedy
- 125 **Women in European History** (3)
A study of the role of women in the political, social, intellectual, and economic life of Europe from the Middle Ages to the 20th century. (Spring) Schwoerer
- 128-29 **War and Society** (3-3)
How wars, armed forces, and defense policies have affected British and American politics and society. Special attention to the relationship of defense and foreign policy, civil-military relations, the development of strategic thought, and the naval and military influence Britain and America have exerted on each other. Hist 128: 1776-1918. Hist 129: 1919-present. (Academic year) Allard
- 131-32 **History of Germany** (3-3)
Political, social, and cultural development. Hist 131: From mid-17th century to Bismarck. Hist 132: From William II to the present. (Academic year) Herbert
- 133 **Recent U.S. History, 1890-1941** (3)
Political, social, diplomatic, and intellectual developments, with particular emphasis on the "searching" '20s and New Deal. (Fall) Ribuffo
- 134 **Contemporary U.S. History Since 1941** (3)
Political, social, diplomatic, and intellectual developments, with particular emphasis on the Cold War, "silent" '50s, and disrupted '60s. (Spring) Ribuffo
- 135 **History of Soviet Intelligence Services** (3)
The role and impact of intelligence and security operations in Soviet domestic and foreign policy, from 1917 to the present. The course examines the literature and problems of Soviet intelligence operations; Tsarist antecedents; Lenin, the Cheka, and the formative years; operations under Stalin; problems of the post-Stalin years; and operations in the Brezhnev era. Prerequisite: Hist 146 or PSc 131 or 168, or permission of instructor. Dziak
- 136 **Europe in the 20th Century** (3)
Diplomatic, political, and cultural developments from the turn of the century to the present. (Spring) Sachar

- 137 **U.S.-Soviet Strategic Relations Since World War II** (3) Thornton
Survey of U.S.-Soviet global rivalry from World War II to the present; comparative historical assessment of the changing strategic balance. (Spring)
- 138 **American Foreign Economic Policy in Historical Perspective** (3) Becker
Historical evolution of United States international economic relations, major issues of foreign economic policy, political problems in policy-making. Emphasis on period since 1945. (Spring)
- 139-40 **World History in the 20th Century** (3-3) Sachar
Diplomatic, political, and cultural factors. Hist 139: From the turn of the century to the Munich settlement of 1938. Hist 140: From the Munich settlement to the present. (Academic year)
- 141 **History of France I** (3) Kennedy
Old Regime: Louis XIV, demography, peasants, bourgeois, nobles; Church-Protestant-Jewish relations; salons, Enlightenment, and philosophes; literacy and education; Robespierre and Revolution; Napoleon. (Fall, odd years)
- 142 **History of France II** (3) Kennedy
The Revolutionary tradition and authoritarianism from the Restoration to De Gaulle; the events of 1848, socialism and the class struggle; women, marriage, morals, and population; industrialization and rural France; deChristianization, Catholic integralism, and worker priests; France's decline as a world power; its intellectual and artistic leadership. (Spring, even years)
- 145 **Russia to 1801** (3) Atkin
Survey of Russian history from the rise of the Kievan confederation in the ninth century to the establishment of Imperial Russia as a European great power. Attention will be given to the political, socioeconomic, and cultural history of the East Slavs, especially the Russians. (Fall)
- 146 **Russia Since 1801** (3) Atkin
Survey of Russian and Soviet history from the reign of Alexander I to the post-Stalin era. Attention will be given to the contending forces of revolution, reform, and conservatism; diplomatic relations; economic development; and social change. (Spring)
- 148 **The French Revolution** (3) Kennedy
Social, political, economic, and cultural history of the decade of revolution, 1789-1799. Attention to its structural consequences in France and in Europe at large. (Summer)
- 149-50 **European Diplomatic History** (3-3) Staff
Emphasis on policies and actions of the great powers and their statesmen. Issues of war and peace, international crises, nationalism, alliances, and tensions. Hist 149: 1812 to 1890. Hist 150: Since 1890. Students who receive credit for Hist 150 cannot receive credit for Hist 157. (Academic year)
- 151-52 **History of England** (3-3) Kenny
Development of English civilization and its impact on Western culture. Hist 151: To 1689. Hist 152: Since 1689. (Academic year)
- 153 **Tudor England** (3) Kenny
Aspects of the constitutional, social, intellectual, economic, and religious development of England, 1485-1603. (Fall)
- 154 **Stuart England** (3) Schwoerer
The civil wars, Restoration, and Glorious Revolution. Political, religious, socioeconomic, and intellectual developments in England, 1603-1714. (Spring)
- 155 **History of Modern Ireland** (3) Kenny
The political and cultural development of Ireland since the Middle Ages and the continuing interaction between Ireland and England, with emphasis on the period from the Act of Union of 1801 to the Partition of 1923.
- 156 **Jewish History from 70 A.D. to 1648** (3) Staff
A history of the Jewish people from the destruction of the Temple through the rabbinic and medieval period, with emphasis on contacts with Christian and Muslim communities and cultures. (Fall)

- 157 **20th-Century European Diplomatic History** (3)
The main currents, with necessary 19th-century background. Students who receive credit for Hist 157 cannot receive credit for Hist 150. (Fall) Sachar
- 158 **Modern Jewish History** (3)
A secular history of the Jewish people from the 18th century to the present state of Israel; emphasis on European political, economic, and cultural influences. (Spring) Sachar
- 161 **Revolution in 20th-Century Latin America** (3)
Examination of the major social revolutions in modern Latin America, especially in Mexico, Bolivia, Cuba, and Nicaragua; their origins, ideology, process, and outcomes. (Fall) Klarén
- 162 **20th-Century Latin America** (3)
A survey of the main societal trends shaping Latin America in this century, with particular emphasis on such themes as populism, urbanization, reformism, modernization, nationalism, revolution, the military dictatorship, and the development process. (Spring) Klarén
- 163-64 **History of Latin America** (3-3)
Hist 163: Analysis of Spanish and Portuguese imperialism in the New World, 1492-1820. Hist 164: A problems approach to Latin America, 1820 to the present; thematic emphasis on neocolonialism, corporatism, liberalism, caudillismo, modernization, populism, and revolution. (Academic year) Klarén
- 165 **Latin America and the Industrializing World, 1850-present** (3)
Examination of the political/diplomatic responses of Latin American nations, individually and collectively, to the expanding industrial powers of the Northern hemisphere in the 19th and 20th centuries, particularly to the United States. (Fall) Klarén
- 167 **Themes in U.S. Cultural History** (3)
Same as AmCv 167. Gillette
- 169 **The American Revolution** (3)
The political, intellectual, social, military, and economic impact of the events surrounding the separation of the United States from the British Empire. Special attention to the influence of non-elite groups. (Fall) DePauw
- 170 **U.S. Early National History** (3)
Political, diplomatic, economic, and social history of the early republic, 1787-1828. (Fall) Hill
- 171-72 **U.S. Social History** (3-3)
Hist 171: Daily life, institutions, intellectual and artistic achievements of the agrarian era, 1607-1861. Hist 172: The urban-industrial era from 1861 to present. Same as AmCv 171-72. (Academic year) Horton
- 173 **Afro-American History** (3)
Survey of the Afro-American experience, emphasizing the contributions of black Americans to and their impact upon American history. (Fall) Horton
- 174 **Special Topics in Afro-American History** (3)
Concentration on specific issues central to the Afro-American experience. Consult *Schedule of Classes* for issues to be addressed. (Spring) Horton
- 177 **The Jacksonian Era and the Rise of Mass Politics** (3)
The period 1828-1860 and its continuing significance to American society; emphasis on racial and gender divisions and changes in the legal and political systems. (Fall, alternate years) Horton
- 178 **Making and Braking the Welfare State** (3)
An examination of America's changing approaches to health and welfare problems, explaining the origins of modern entitlement programs and examining ways in which these programs have been adapted and reshaped. Topics such as welfare reform and health insurance are covered. (Spring) Berkowitz
- 179 **U.S. Economic History** (3)
Survey of American economic history from colonial times to the present. Particular attention is given to the economics of slavery, the development of a national industrial economy, and the growth of the federal government as an influence on economic policy. Same as Econ 179. (Fall) Berkowitz

- 181-82 **U.S. Diplomatic History** (3-3) Hill
American foreign relations from the era of the American Revolution. Hist 181: to 1898. Hist 182: 20th century. (Academic year)
- 183 **Individualism, Reason, and Tradition in Early Modern Europe** (3) Kennedy
An interdisciplinary examination of the rise of Western individualism from the Renaissance to the American and French Revolutions. Analysis of the tension between reason and religious and popular traditions. Guest lectures by Art, English, Germanic Languages and Literatures, and History faculty. Core course for Early Modern European Studies major but open to other undergraduate and graduate students as well. Same as Engl/Fren/Ger/Rel 183 and Art 187. (Spring, alternate years)
- 184 **Civil War and Reconstruction** (3) DePauw
How tensions between the sections developed into violence, how a total war was fought on American soil, and how the experience of war affected the generation that lived through it. (Spring, alternate years)
- 185 **History of Women in America** (3) DePauw
Survey of the political, economic, social, military, religious, intellectual, and cultural practices in North America from 1000 A.D. to the present as these have affected and been affected by the female half of the population. Same as AmCv 185. (Spring, alternate years)
- 186 **U.S. Urban History** (3) Stott
The American city from colonial foundations to the present, relating social and economic forces to physical form. Special emphasis on transitions from pre-industrial to industrial to metropolitan forms, focusing on implications for public policy and historic preservation. Same as AmCv 186. (Fall)
- 187 **History of Modern China** (3) Johnson
China since 1840, with particular attention to political developments. (Fall)
- 188 **History of Chinese Communism** (3) Thornton
Survey of the leadership, ideology, structure, and foreign and domestic policies of the Chinese Communist Party from its inception to the present. (Fall)
- 189 **History of Modern Japan** (3) Staff
Japan's century of modernization—from the Meiji Restoration of 1868 to the present. Emphasis on historical, political, economic, and cultural factors. (Fall)
- 190 **Ethnohistory** (3) Wagner, Humphrey
Same as Anth 190.
- 191-92 **Senior Honors Thesis** (3-3) Atkin
Required of and open only to undergraduate honors candidates in history. (Academic year)
- 193 **History of the Near East** (3) Staff
Byzantine, Arab, Persian, and Islamic backgrounds; rise and decline of the Ottoman Empire; action of European powers in the area; Ottoman breakup into the Turkish Republic and other states. (Fall)
- 194 **History of the Modern Near East** (3) Staff
Beginning with Napoleon's invasion of Egypt. Development of nationalism and of modern states; impact of the West on culture and institutions; great-power imperialism; crises of Turkish Straits, Suez, Arab-Israeli relations; and other issues. (Spring)
- 195 **Traditional Civilizations of China and Japan** (3) Johnson
Intellectual, institutional, and social development of the traditional civilizations of China and Japan, from their origins to 1800. (Fall)
- 196 **The Modern Transformation of China and Japan** (3) Johnson
The social, political, and intellectual transformation of China and Japan from the mid-19th century to the present. (Spring)
- 197 **Oral History and Interview Techniques** (3) Staff
Same as AmCv/Anth 197.

- 198 **Special Topics in History** (3)
Historical perspectives on great issues of past and present. New topic each semester.
- 199 **Proseminar: Readings for the History Major** (3)
Required of history majors; this course should be taken during the junior year. Readings and discussions on major trends in history; representative selections from the classics of historical literature. Students who receive credit for Hist 199 cannot receive credit for Hist 201. (Fall and spring)

Third Group

Any student who has had the appropriate preparation may, with the consent of the instructor, enroll in a third-group course. Enrollment is not restricted to history majors and graduate students. History majors will satisfy the third-group requirement by taking either two courses for research or one course for research and one course for a readings program.

- 201 **History and Historians** (3)
Historiography and historical method for graduate students. Readings and discussions on major trends in history; selections from classics of historical literature. Students who receive credit for Hist 201 cannot receive credit for Hist 199. (Spring)
- 203-4 **Seminar: Research or Readings** (3-3)
Offered on demand for individual research programs. Prerequisite: approval of department. (Academic year)
- 205 **Readings Seminar: Eastern European History, 1772-1918** (3)
(Fall)
- 206 **Readings Seminar: Eastern European History, 1919-1945** (3)
(Spring)
- 209 **Readings/Research Seminar: Topics in Ancient History** (3)
Readings on general topics in the history of the ancient Near East, Greece, or Rome. Topics to be announced in the *Schedule of Classes*. Students with working knowledge of the appropriate language(s) may receive research credit.
- 213-14 **History in Public Policy** (3-3)
Seminar in the use of historical insights and methods in policy-making, with emphasis on domestic issues. Assessment and use of primary sources for policy analysis and the use of historical analogy in policy formulation.
- 217 **Readings/Research Seminar: Russian and Soviet Thought** (3)
Selected topics in the intellectual, social, and cultural history of 19th- and 20th-century Russia and Soviet Union.
- 218 **Readings/Research Seminar: Soviet Nationalities** (3)
An examination of the relationship between the U.S.S.R.'s multinational composition and its domestic political, economic, social, and cultural policies and foreign relations. (Fall)
- 219 **Internship in History and Public Policy** (3 or 6)
Supervised participation in an office or agency concerned with the formulation of public policy; terms of the internship are arranged with the Director of the History and Public Policy Program. Enrollment restricted to students in the History and Public Policy Program. (Fall and spring)
- 220 **American Business History** (3)
The history of American business institutions in manufacturing, distribution, transportation, and finance. Particular attention will be given to the period since industrialization, with consideration of business institutions in their economic, legal, governmental, and social contexts. Same as BA 293. (Spring)
- 224 **Readings/Research Seminar: European Intellectual History** (3)
Cultural history of the French Revolution. Interrelated changes in political and economic thought, theater, arts, religion, and science from 1789 to 1799. Continuity or discontinuity with pre- and post-revolutionary cultural life.
- 225 **History of Washington, D.C.** (3)
Same as AmCv 225.

- 228 **Readings/Research Seminar: Modern Military and Naval History** (3) Staff
Discussion, readings, and research in 20th-century European and American military and naval history.
- 229 **Seminar: World War II** (3) Staff
Examination of statecraft and the management of force before, during, and after World War II. Special attention to broad aspects of military policy and strategy and their interaction with international politics and diplomacy.
- 230-31 **Readings/Research Seminar: Strategy and Policy** (3-3) Schligh
Hist 230: A study of the historical development of strategy and the relationship of military thought to national policy. Hist 231: 20th-century strategic thought. (Academic year)
- 232 **Comparative Communist Systems I** (3) Wolchik
Same as PSc 232.
- 233 **Comparative Communist Systems II** (3) Wolchik
Same as PSc 233.
- 237 **Readings Seminar: Soviet Foreign Policy, 1917-1964** (3) Staff
Concepts and perceptions guiding Soviet relations with the outside world. From the blockade and intervention, through years of isolation, World War II, the Cold War, to "peaceful coexistence" and detente. (Fall and summer)
- 239 **Readings/Research Seminar: Early Modern European History** (3) Schwoerer
Topics selected from Western European history of the 14th through 17th centuries. Readings or research, depending upon students' interests and curricular needs.
- 241 **Readings/Research Seminar: Modern European History** (3) Herber
Prerequisite: appropriate preparation and consent of instructor
- 246 **Readings/Research Seminar: History of Modern Russia and Soviet Union** (3) Atkin
Selected topics in the domestic history of modern Russia and Soviet Union. (Fall)
- 248 **Readings Seminar: Modern Near Eastern History** (3) Davison
Admission by permission of instructor. (Spring)
- 249 **Research Seminar: European Diplomatic History** (3) Staff
Research seminar in individually selected topics concerning the foreign policies, actions, and interrelations of the European great powers and their statesmen in the 19th or 20th century. Reading knowledge of one language other than English required. (Fall)
- 251 **Readings/Research Seminar: English People and Institutions** (3) Kenny, Schwoerer
Selected topics in the political, social, intellectual, and economic history of England. Focus upon one time period and special area of interest. (Fall and spring)
- 253-54 **Readings Seminar: History of Sino-Soviet Relations** (3-3) Thornton
Seminar designed to develop analytic and historiographic skills. Fall: turn of the century to 1949; spring: Korean War to the present. (Alternate academic years)
- 255-56 **Readings Seminar: U.S.-Soviet Strategic Relations Since World War II** (3-3) Thornton
Seminar designed to develop a conceptual framework for understanding contemporary U.S.-Soviet relations. Fall: World War II to 1965; spring: 1965 to the present. Hist 255 is prerequisite to Hist 256. (Academic year)
- 258 **Communist Party of the Soviet Union** (3) Sodaro
Same as PSc 258.
- 259-60 **Research Seminar: Problems in U.S.-Soviet-Chinese Relations** (3-3) Thornton
Development of scholarly skills through preparation of a research paper. Prerequisite: Hist 254 or 255 or permission of instructor. (Alternate academic years)

- 261-62 **Readings/Research Seminar: Topics in Modern Latin America** (3-3)
Admission by permission of the instructor.
- 267 **Readings/Research Seminar: American Social Thought Since World War II** (3)
Consideration of C. Wright Mills, Daniel Bell, Abraham Maslow, Christopher Lasch, Paul Goodman, Martin Luther King, Jr., Barbara Ehrenreich, and other major social critics. (Fall)
- 271-72 **U.S. Social History** (3-3)
Hist 271: Readings seminar on American daily life, institutions, and intellectual and artistic achievements. Hist 272: Research seminar. Hist 271 is prerequisite to Hist 272.
- 275-76 **Readings/Research Seminar: U.S. Political and Colonial History** (3-3)
Research or readings, depending on students' interest and curricular needs. Topics on various aspects of the colonial period or political aspects of various periods. Admission by permission of instructor. (Academic year)
- 277-78 **Historic Preservation: Principals and Methods** (3-3)
Same as AmCv/U&RP 277-78.
- 279 **Readings/Research Seminar: American History** (3)
Readings or research, depending on students' interests and curricular needs. Admission by permission of instructor. (Summer)
- 281-82 **Readings/Research Seminar: U.S. Diplomatic History** (3-3)
Research or readings, depending on students' interest and curricular needs. Hist 281: 1776-1890; Hist 282: 1890-1950. (Academic year)
- 283-84 **Readings/Research Seminar: Recent U.S. History** (3-3)
Prerequisite: 6 semester hours of 100-level American history courses. Research or readings, depending on students' interests and curricular needs.
- 285 **Readings Seminar: Military and Women's History** (3)
Admission by permission of instructor. (Fall, alternate years)
- 286 **Research Seminar: Military and Women's History** (3)
Admission by permission of instructor. (Spring, alternate years)
- 287 **Seminar: Problems in Latin American Civilization** (3)
Same as IAff 287.
- 289 **Readings/Research Seminar: Modern Japanese History** (3)
Selected topics in modern Japanese history from the Meiji Restoration of 1868 to the present. Research or readings depending on students' interests and curricular needs. (Spring)
- 291 **Readings/Research Seminar: 20th-Century History** (3)
Research or readings on selected topics. (Fall)
- 292 **Israel, Zionism, and the Arab World** (3)
Research seminar. (Spring)
- 293 **Research Seminar: Modern East Asian History** (3)
- 294 **Research Seminar: The Modern Near East** (3)
Readings, discussion, and research in selected political, economic, social, cultural, and international developments in the 19th and 20th centuries concerning countries from the Balkans, through Turkey and the Arab countries, to Iran. (Spring)
- 295-96 **Readings Seminar: Modern East Asian History** (3-3)
- 297 **Special Topics Seminar** (3)
Open to doctoral and master's candidates and qualified undergraduates. May be repeated for credit. Offered whenever five or more students can be enrolled.
- 298 **Dumbarton Oaks Courses** (arr.)
Courses offered each year by scholars in residence at Dumbarton Oaks are open to qualified graduate and undergraduate students with permission of department chairman. Topics will be announced. May be repeated for credit provided the topic differs.

299-300 **Thesis Research** (3-3)
(Fall and spring)

Staff

Fourth Group

Prerequisite to all fourth-group history courses: consent of instructor. Fourth-group history courses are primarily for doctoral students, but master's degree candidates may be admitted.

George Washington University is a member of the Folger Institute of Renaissance and 18th-century Studies. Institute policies are set by a central committee on which each member institution is represented. Doctoral students enrolled in the Institute seminar are eligible to apply for fellowship aid. Folger Institute Seminars are numbered 301-14. Students wishing to register for these courses should consult the History Department advisor.

301-14 **Folger Institute Seminars** (3 each)

Staff

Topics will be announced in the *Schedule of Classes*. May be repeated for credit provided the topic differs.

342 **Readings in Modern European History** (3)

Staff

From the French Revolution to the period following World War I. (Spring)

398 **Advanced Reading and Research** (arr.)

Staff

Limited to students preparing for the Doctor of Philosophy general examination. May be repeated for credit. (Fall and spring)

399 **Dissertation Research** (arr.)

Staff

Limited to Doctor of Philosophy candidates. May be repeated for credit. (Fall and spring)

HONORS

Columbian Scholars Program Committee

S. Strasser (Director), A. Altman, M.D.M. Brewer, N.C. Garner, D.R. Grier, J.R. Henig, D.R. Lehman, R.K. Packer, H. Weingartner, J.E. Ziolkowski

The Columbian Scholars Program is part of the University Honors Program. The set of courses listed below is the first offering in a planned array of courses available to students designated Columbian Scholars.

71-72 **Honors Western Society and Civilization** (3-3)

Staff

Honr 1: Basic ideas of Western thought from early Greek, Roman, Judaic, and Christian traditions; representative readings in drama, epic, historical writings, oratory, creation stories, scriptural traditions, philosophy, and spiritual autobiography. Honr 2: An examination in historical context of central texts from the Middle Ages, the Renaissance, and the Enlightenment: Aquinas, Dante, Machiavelli, Erasmus, Luther, Montaigne, Bacon, Shakespeare, Rabelais, Descartes, Milton, and Locke. (Credit will not be given for both Honr 71 and Hmn 1 or Honr 72 and Hmn 2.) (Academic year)

HUMAN KINETICS AND LEISURE STUDIES

Professors J.L. Breen, D.E. Hawkins, J.E. Snodgrass (Chair), D.C. Paup

Adjunct Professors C.A. Troester, Jr., R. Anzola-Bentancourt, D.L. Edgell, S. Wahab

Assistant Professor D. Frechtling

Instructors H. Nashman, P.A. Sullivan (Visiting), D.L. Gebhardt

Instructors E.C. Rach, S.E. Spivack (Visiting)

Adjunct Instructors G.V. Swengros, B.J. Westerman, R.L. Jarvis, R.L. Harrison, S.D. Cook, S.A. Schulman, K. Vecchione, C.W. Warner

See the School of Education and Human Development for programs of study leading to the degrees of Bachelor of Science in Human Kinetics and Leisure Studies (with specialization in exercise and sport science) and Master of Arts in Education and Human Development.

ment (with specialization in exercise science, tourism administration, and individualized programs in human kinetics and leisure studies).

The University is not responsible for injuries received in any of the activities of the Department of Human Kinetics and Leisure Studies, and the student assumes full responsibility therefor.

EXERCISE AND SPORT ACTIVITIES

First Group

With the exception of students pursuing undergraduate degrees in the School of Education and Human Development, credit for exercise and sport activities courses is not recognized for the baccalaureate. Some exercise and sport activities courses may be repeated for credit by those students who are eligible to receive credit for such courses.

- 10 **Beginning Badminton** (1)
- 20 **Beginning/Intermediate Golf** (1)
- 21 **Foil Fencing** (1)
- 22 **Basketball** (1)
- 24 **Volleyball** (1)
- 26 **Karate** (1)
- 27 **Tennis** (1)
- 29 **Yoga** (1)
- 30 **Fitness** (1)
- 32 **Beginning Swimming** (1)
- 33 **Lifeguard/Lifeguard Instructor** (1)
- 34 **Intermediate Swimming** (1)
- 37 **Soccer** (1)
- 38 **Racquetball** (1)
- 42 **Aerobics** (1)
- 43 **Tai Chi** (1)
- 45 **Experimental Activities** (1)

Topic and amount of laboratory fee (if charged) announced in *Schedule of Classes*. May be repeated for credit.

- 50 **CPR and First Aid** (2)

Training for certification in cardiopulmonary resuscitation and first aid. Laboratory fee, amount announced in *Schedule of Classes*.

- 54 **Intermediate/Advanced Tennis** (1 or 2)

Development of skills, theories of strategy; emphasis on competitive play as a lifetime sport.

- 55 **Water Safety Instructor Certification** (2)

- 56 **Scuba Diving** (2)

Laboratory fee, amount announced in *Schedule of Classes*.

- 59 **Team Sports** (2)

- 60 **Racket Sports** (2)

- 61 **Aquatic Leadership** (2)

- 62 **Conditioning/Weight Training** (2)

- 65 **Skiing** (2)

Laboratory fee, amount announced in *Schedule of Classes*. (Spring)

- 68 **Sport Clinics and Workshops** (1 to 3)

Special intensive study and skill development. There may be a laboratory fee, amount announced in *Schedule of Classes*.

HUMAN KINETICS

Second Group

- 101 **Experimental Course** (3)

Topic to be announced in *Schedule of Classes*.

- 103 **Professional Foundations of Human Kinetics and Leisure Studies** (3) Snodgrass
Nature, scope, and scientific basis of human kinetics and leisure studies; orientation to professional competencies.
- 109 **Fitness Programs: Testing and Prescription** (3) Paup
Evaluation of aerobic capacity, muscular strength, flexibility, and ideal body weight; development of prescribed exercise programs. (Fall)
- 110 **Fitness Programs: Supervision and Leadership** (3) Sullivan
Concepts and techniques of the supervision and management of fitness programs. (Spring)
- 111 **Sports Education Technique and Analysis: Racket Sports** (3) Paup
Basic concepts in skill development, analysis, and evaluation in the racket sports: badminton, racketball, squash, and tennis. (Fall)
- 112 **Sports Education Technique and Analysis: Team Sports or Aquatics** (3) Sullivan
Techniques of teaching, coaching, and management of team sports or aquatics. (Spring)
- 122 **Methods and Materials for Health Education** (3) Staff
Conceptual approach to curriculum design and teaching, including planning and organization, methodology, selection and use of materials, and evaluation: basic health knowledge. (Spring)
- 129 **Introduction to Motor Learning** (3) Staff
Concepts of skill learning applied to teaching, coaching, and performing motor skills. (Fall)
- 130 **Introduction to Motor Development and Life-Span Fitness** (3) Snodgrass
Study of the evolution and refinement of fundamental movement skills throughout the life span. (Fall)
- 134 **Sports and Nutrition** (3) Staff
The nutrition needs for recreational exercise and sports; skills in assessing nutrition needs; development of individual nutrition programs that are sport/activity-specific; and identification and correction of nutrition problems affecting sports performance. (Fall)
- 138 **Organization and Management of Sport and Exercise Programs** (3) Staff
Introduction to concepts of management related to sport and exercise program.
- 139 **Principles of Coaching** (3) Sullivan
Study of coach/athlete behavioral patterns and interactions, coaching methods, and interdisciplinary principles applicable to coaching. (Spring)
- 140 **Exercise and Sport Psychology** (3) Sullivan
Study of psychological aspects of sport participants, athletes, teams, and competition, including personality, motivation, performance level, achievement, and behavioral change strategies; social factors, training events, and measurement techniques. (Fall)
- 145 **Working, Stress, and Human Values** (3) Nashman
Recognition, prevention, and control of stress and the burnout syndrome. A humanistic inquiry into values, attitudes, and stressors associated with various professions. Admission by permission of instructor. (Fall)
- 146 **Stress Management, Burnout, and Human Potential** (3) Nashman
The nature, prevention, and control of the stress and burnout syndrome. Students will design an overall stress management strategy that incorporates achievement of life goals and human potential in a stress-efficient manner. Admission by permission of instructor. (Spring)
- 150 **Introduction to Human Anatomy** (3) Gebhardt
Systematic study of the structure of the human body, with emphasis on joints, muscles, and neuromuscular mechanisms. (Fall)
- 151 **Kinesiology** (3) Paup
Analysis of human movement, including mechanical physics, anatomy, and physiology. Prerequisite: an approved course in anatomy. (Spring)

- 152 **Physiology of Exercise** (3)
The physiological functions of the body and the effect of exercise on these functions. Prerequisite: HmKn 150 or permission of instructor. (Fall) Paup
- 158 **Safety: Prevention and Care of Sports Injuries** (3)
Safety education, liability, prevention and care of sports injuries; related personnel, facilities, and equipment. (Fall) Westerman
- 159 **Athletic Training and Rehabilitation** (3)
The course is designed to provide lectures and lab sessions dealing with upper and lower extremities for injury evaluation techniques, the use of therapeutic modalities, and rehabilitation techniques. Prerequisite: HmKn 158. (Spring) Westerman
- 161-62 **Practicum** (3-3)
For departmental majors only. Practical experience in related disciplines. May be repeated for credit. (Academic year) Paup, Nashman
- 171 **Senior Seminar** (3)
Study of current literature with implications for human kinetics specializations; use of library resources and retrieval systems; evaluation of professional competencies. Prerequisite: HmKn 103 or permission of instructor. Snodgrass
- 172 **International Experiences** (1 to 6)
For departmental majors only. Travel to a foreign country for study of a specific topic. Staff
- 173 **Independent Study** (1 to 3)
For departmental majors only. Individually designed model for intensive study in an area of special interest. Prerequisite: demonstrated competency for independent work and permission of advisor and instructor. May be repeated for credit. Staff
- 175 **Field Experiences/Internship** (3 to 9)
Prerequisite: HmKn 161-62 or equivalent. Admission by permission of advisor. (Fall and spring) Paup, Nashman
- 184 **Workshop** (1 to 3)
Topic to be announced in *Schedule of Classes*. May be repeated for credit with permission of advisor. Staff

Third Group

- 201 **Experimental Course** (3)
Topic to be announced in *Schedule of Classes*. Staff
- 202 **Motor Learning and Performance** (3)
Variables of perceptual motor learning and performance; theories, concepts, and models of learning applied to teaching and coaching. (Fall) Staff
- 230 **Motor Development and Life-Span Fitness** (3)
Analysis of motor development and fitness throughout the life span, including practice in techniques of critical observation. (Spring) Snodgrass
- 255 **Fitness Evaluation and Exercise Prescription** (3)
Methods and techniques for providing individualized exercise and fitness prescriptions based on measurement and evaluation of physical fitness and health-related variables. Prerequisite: HmKn 152 or permission of instructor. (Spring) Paup
- 256 **Sports Medicine** (3)
Theory, practice, and research in diagnostic treatment, rehabilitation, and prevention of sports-related injuries. Prerequisite: HmKn 150. Breen
- 257 **Principles and Concepts of Employee Health/Fitness Programs** (3)
General overview of the employee health/fitness movement in the U.S. and other countries. Public and private health policy implications will be analyzed together with national economic and political trends relating to the subject. Evaluation of model programs, procedures, and current practice. Swengros
- 259 **Exercise, Stress, and Cardiac Rehabilitation** (3)
Applied physiology of exercise and psychological stress in relation to coronary artery disease and myocardial infarction; the principles and practice of rehabilitation. Gorman

- tation of patients recovering from a coronary event (heart attack or heart surgery) by exercise therapy and risk-factor reduction. Prerequisite: HmKn 152 or permission of instructor. (Fall)
- 280 **Advanced Workshop** (1 to 3) Staff
Topic to be announced in *Schedule of Classes*. Contemporary issues and problems; development of advanced professional competencies. May be repeated for credit with permission of advisor. (Fall and spring)
- 282 **International Experiences** (1 to 6) Staff
For master's degree candidates enrolled in the department. May be repeated for credit with approval of advisor.
- 283 **Practicum** (3 to 6) Breen and Staff
For master's degree candidates enrolled in the department. Fieldwork, internship, and/or instructional practice, including conference and/or seminar. May be repeated once for credit with permission of advisor. (Fall, spring, and summer)
- 290 **Advanced Seminar** (1 to 3) Staff
Topic to be announced in *Schedule of Classes*. May be repeated for credit with approval of advisor. (Fall and spring)
- 293 **Independent Study** (1 to 6) Breen and Staff
For master's degree candidates enrolled in the department. May be repeated for credit with approval of advisor.
- 297 **Advanced Topical Studies** (3) Breen and Staff
For master's degree candidates enrolled in the department. Independent research and study pertinent to the needs of the student. Prerequisite: Educ 295 or permission of instructor. (Fall and spring)
- 299 **Thesis Research** (6) Staff

TRAVEL AND TOURISM

Second Group

- 101 **Experimental Course** (3) Staff
Topics announced in the *Schedule of Classes*.
- 104 **Introduction to Travel and Tourism** (3) Spivack
Survey of the travel and tourism industry with emphasis on marketing tourism and travel, research and development of tourist destinations, and the economic and social impact of tourism. (Fall, spring, and summer)
- 113-14 **Practicum** (3-3) Hawkins, Rach
Practical experience in travel and tourism related disciplines. (Academic year and summer)
- 143 **Tourist Accommodations and the Hospitality Industry** (3) Rach
An overview of the basic principles involved in the management, operations, marketing, and financing of hotels, restaurants, and other tourist accommodations, facilities, and services. (Spring)
- 144 **Tourist Attractions and Activities** (3) Spivack
Basic principles of planning, developing, and managing natural and man-made attractions. National, state, and local park systems, as well as private sector resorts, theme parks, and other tourist attractions are examined. Various recreation activities popular among tourists are examined in view of their personal, economic, social, and environmental impacts. (Spring)
- 145 **Travel and Tourism Advertising, Public Relations, and Sales Techniques** (3) Staff
Reviews and applies basic advertising, public relations, and sales techniques to the travel and tourism field. Includes study of effective techniques and selected case studies and current practices. (Spring)
- 146 **Tourist Characteristics and Behavior** (3) Rach
Socioeconomic, demographic, and psychological characteristics of various types of tourist populations. Emphasis on tourist behavior in planning, developing,

and marketing tourism programs and services. Cultural differences as they influence travel. (Fall)

147 Travel and Tourism Transportation Systems (3)

Overview of the various transportation modes. Planning, financial, operational, marketing, and evaluation aspects of the different systems of transportation. Limited emphasis on the development of travel distribution systems to support specific transportation modes. (Fall)

172 International Experiences (1 to 12)

Travel to a foreign country for study of a specific topic. (Fall, spring, and summer)

173 Independent Study (1 to 6)

Individually designed model for intensive study in an area of special interest. Prerequisite: demonstrated competency for independent work and permission of advisor and instructor. May be repeated for credit. (Fall, spring, and summer)

178 Designing and Implementing Conferences and Meetings (3)

Same as Educ 178. (Spring and summer)

184 Workshop (1 to 6)

Topics announced in the *Schedule of Classes*. May be repeated for credit with permission of advisor. (Fall, spring, and summer)

193 Domestic and International Tourism Destinations (3)

Physical and cultural geography of major tourist destinations. Guest-host relationships; information systems. (Spring)

Third Group

201 Experimental Course (3)

Topics announced in the *Schedule of Classes*. (Fall, spring, and summer)

230 Organization and Management of Airlines (3)

Overview of domestic and international passenger air transportation systems. Analysis of planning, financing, operating, marketing, and evaluating airline transportation systems. Legal and regulatory aspects of airline operation. Attention is devoted to development of infrastructure and related support services. (Summer)

249 Economic, Sociocultural, and Environmental Aspects of Tourism (3)

Impact of tourism on economic development and cultural values; specific emphasis on psychosocial, physical, and community impacts. (Fall and summer)

250 Administration of Travel and Tourism Services (3)

Organization and management concepts, theories, and issues, stressing application of theory through analysis of short case examples drawn from the broader range of the travel and tourism industry. (Fall and summer)

260 Tourism Development (3)

Relationship of economic theory and principles to tourism development; applications of financial analysis techniques to the travel and tourism field. (Fall)

261 Planning for Tourism (3)

Integrated planning for travel and tourism organizations; financial and physical development for comprehensive tourism projects; consideration of basic concepts, approaches, and models. (Spring and summer)

262 Tourism Policy Analysis (3)

Understanding components of tourism policy, development of tools for tourism policy analysis, and description of tourism organizations in the government and private sector. (Spring and summer)

263 Tourism Marketing (3)

Concepts and techniques employed in marketing travel industry products and services, including its public- and private-sector components. Assessment of the tourism product, development of the marketing strategy, preparation of the marketing plan, and analysis of specific promotional programs. (Fall)

- 270 **Travel and Tourism Research** (3) Spivack, Cook
Analysis of general research methods and tools and their application to the study of travel and tourism. (Spring and summer)
- 280 **Advanced Workshop** (1 to 6) Staff
Workshops with emphasis on contemporary issues and problems; development of advanced professional competencies. May be repeated for credit with permission of advisor. (Fall, spring, and summer)
- 282 **International Experiences** (1 to 12) Staff
For master's degree candidates enrolled in the department. Travel to a foreign country for study of a specific topic. May be repeated for credit with approval of advisor. (Fall, spring, and summer)
- 283 **Practicum** (3 to 6) Hawkins and Staff
For master's degree candidates enrolled in the department. Fieldwork, internship, and/or instructional practice, including conference and/or seminar. May be repeated once for credit with permission of advisor. (Fall, spring, and summer)
- 290 **Advanced Seminar** (1 to 3) Staff
For master's degree candidates enrolled in the department. May be repeated for credit with approval of advisor. (Fall, spring, and summer)
- 293 **Independent Study** (1 to 6) Staff
For master's degree candidates enrolled in the department. May be repeated for credit with approval of advisor. (Fall, spring, and summer)
- 296 **Systems Analysis of Tourism Services** (3) Rach
Quantitative analysis, resource identification, design techniques, and other systems approaches applied to travel and tourism services. (Fall and summer)
- 297 **Advanced Topical Studies** (3) Staff
For master's degree candidates enrolled in the department. Independent research and study pertinent to the needs of the student. Prerequisite: Educ 295 and T&T 270 or permission of instructor. (Fall, spring, and summer)
- 299 **Thesis Research** (1 to 6) Staff
Individual research under guidance of a staff member. May be repeated for credit with approval of advisor. Prerequisite: Educ 295 and T&T 270 or permission of instructor. (Fall, spring, and summer)

HUMAN RESOURCE DEVELOPMENT

See Human Services.

HUMAN SERVICES

Professors C.E. Vontress, L. Winkler, D. Linkowski, E.W. Kelly, Jr., J.C. Heddesheimer (Chair), D.W. Dew (Research), C.H. Hoare
Associate Professors G.E. Schou, N.E. Chalofsky, N.M. Dixon
Adjunct Associate Professors E.J. Berne, G.P. Kearsley
Assistant Professors E. Fabian (Visiting), D.R. Schwandt (Visiting)
Adjunct Assistant Professor D.W. Miller
Instructor T. Martin

See the School of Education and Human Development for programs of study leading to the degrees of Bachelor of Arts in Education and Human Development, Master of Arts in Education and Human Development, Education Specialist, and Doctor of Education.

COUNSELING

- 133 **Supervised Experience in Counseling** (3 to 6) Staff
Fieldwork, internship, and instructional practice. Admission by permission of instructor. (Fall and spring)

- 162 **Foundations of Counseling** (3) Heddesheimer, Kelly, Winkler
Introductory survey: definitions, scope, principles, historical background, organization, services, emerging trends, and issues. (Fall, spring, and summer)
- 163 **Personal and Social Adjustment** (3) Winkler
Mental health problems; emphasis on needs of counselors, teachers, and others working with children and adolescents. (Spring)
- 193-94 **Research and Independent Study** (arr.) Staff
Individual research under guidance of a staff member. (Academic year)
- 200 **Special Workshop in Counseling** (arr.)
Topics to be announced in the *Schedule of Classes*. May be repeated for credit.
- 251 **Foundations of Counseling** (3) Heddesheimer, Kelly, Winkler
Introductory survey: definitions, scope, principles, historical background, organization, services, emerging trends, and issues. (Fall and spring)
- 252 **Small-Group Self-Awareness Workshop** (0) Staff
For graduate students in counseling only. Laboratory fee, \$110.
- 253 **Counseling Interview Skills** (3) Heddesheimer
Acquisition of counseling skills common to all theories through lectures, demonstrations by faculty, role playing, and videotaping. Prerequisite or concurrent registration: Cnsl 251 (for counseling majors); permission of instructor is required for others. (Fall, spring, and summer)
- 254 **Personal and Social Adjustment** (3) Winkler
Mental health problems; emphasis on needs of counselors, teachers, and others working with children and adolescents. (Spring)
- 255 **Career Development and Information** (3) Vontress
A consideration of theory, practice, and the body of information related to career counseling, choice, and development over the life span. Prerequisite: Cnsl 251 (for counseling majors); permission of instructor is required for others. (Fall)
- 257 **Individual Appraisal in Counseling** (3) Winkler
Detailed study of individual analysis and appraisal techniques. Development of systematic case study. Prerequisite or concurrent registration: Cnsl 251 (for counseling majors); permission of instructor is required for others. (Fall)
- 259 **Theories and Techniques of Counseling** (3) Heddesheimer, Vontress, Kelly
An introduction to basic counseling and psychotherapeutic theories and associated techniques. Prerequisite or concurrent registration: Cnsl 251 (for counseling majors); permission of instructor is required for others. (Fall and spring)
- 261 **Group Counseling** (3) Heddesheimer, Kelly, Linkowski, Winkler
Principles of group dynamics as related to interaction within groups. Techniques and practice in group counseling. Prerequisite or concurrent registration: Cnsl 251 (for counseling majors); permission of instructor is required for others. (Spring and summer)
- 263 **Cross-Cultural Counseling** (3) Vontress
A consideration of procedures for, and impediments to, counseling culturally different clients. Prerequisite or concurrent registration: Cnsl 251 (for counseling majors); permission of instructor is required for others. (Spring and summer)
- 264 **Counseling and Religion** (3) Kelly
An examination of the theoretical and practical intersection of counseling, psychotherapy, and mental health considerations with religion and spirituality. Concepts and methods for the clinically effective and ethically responsible integration of religion and spirituality into counseling. Prerequisite or concurrent registration: Cnsl 251 (for counseling majors); permission of instructor is required for others. (Spring)
- 267 **Foundations of Employee Assistance Programs** (3) Staff
History, legislation, and foundations of practice of counseling in employee assistance programs. Prerequisite or concurrent registration: Cnsl 251 (for counseling majors); permission of instructor is required for others.

- 269 **Counseling Substance Abusers** (3) Staff
Individual, group, family, and self-help counseling applied to substance abusers. Prerequisite or concurrent registration: Cnsl 251 (for counseling majors); permission of instructor is required for others.
- 271 **Family Counseling** (3) Winkler
The family as a system: how it affects the client and how the client affects it. Didactic presentations, role playing, and work with simulated families. Prerequisite or concurrent registration: Cnsl 251 (for counseling majors); permission of instructor is required for others. (Spring)
- 272 **Human Sexuality for Counselors** (3) Winkler
The purpose of this course is to increase the awareness and understanding of sexuality as it relates to counseling in contemporary society. Prerequisite or concurrent registration: Cnsl 251 (for counseling majors); permission of instructor is required for others. (Fall)
- 274 **Counseling Older Persons** (3) Linkowski
Special considerations and counseling emphases in regard to the life transitions and role changes that occur for older persons. Prerequisite or concurrent registration: Cnsl 251 (for counseling majors); permission of instructor is required for others. (Summer)
- 276 **Foundations of Rehabilitation** (3) Fabian, Linkowski
Survey of history, philosophy, legislation, roles, and services. Visits to selected field sites. (Fall)
- 278 **Psychosocial Aspects of Disabilities** (3) Linkowski
Impact of disabilities and concept of normalization. (Fall)
- 280 **Job Development and Placement** (3) Fabian
Job development and modification: placement of disabled persons. (Spring)
- 281 **Medical Aspects of Disabilities** (3) Fabian, Linkowski
Chronic and traumatic disorders with rehabilitation implications. (Spring)
- 284 **Practicum in Counseling** (1) Staff
Part of a two-semester clinical experience for degree candidates in counseling. Prerequisite: Cnsl 253, 255, 257, and 259; prerequisite or concurrent registration: Cnsl 261; concurrent registration: Cnsl 285. (Fall, spring, and summer)
- 285 **Internship in Counseling I** (2) Staff
Part of a two-semester clinical experience for degree candidates in counseling. Concurrent registration: Cnsl 284. (Fall, spring, and summer)
- 286 **Internship in Counseling II** (3) Staff
Part of a two-semester clinical experience for degree candidates in counseling. Prerequisite: Cnsl 285. (Fall, spring, and summer)
- 293-94 **Research and Independent Study** (1 to 3) Staff
Individual research under guidance of a staff member. Program and conferences arranged with an instructor. (Academic year)
- 298-99 **Thesis Research** (3-3) Staff
352 **Organization and Administration of Counseling Services** (3) Vontress
Principles and procedures for designing and implementing counseling services. Admission by permission of instructor. (Spring)
- 358 **Advanced Theories of Counseling** (3) Vontress
Critical analysis and evaluation of leading counseling theories and consideration of their implications for practice. Intended for Education Specialist and Doctor of Education degree candidates whose area of concentration is counseling. Admission by permission of instructor. (Fall)
- 359-60 **Doctoral Internship in Counseling** (3-3) Heddesheimer, Kelly
- 361 **Seminar: Counseling** (arr.) Staff
- 391 **Dissertation Research** (arr.) Staff
Prerequisite: Educ 390.

HUMAN RESOURCE DEVELOPMENT

- 133 **Supervised Experience in Human Resource Development** (3 to 6)
Fieldwork, internship, and instructional practice. Admission by permission of instructor. (Fall and spring) Staff
- 178 **Designing and Implementing Conferences and Meetings** (3)
Same as T&T 178. Use of design committees, steering committees, selection of resource people, site selection, exhibits, and relation to supplier personnel. Special attention to designing the core of the conference and related conference activities. (Spring and summer) Staff
- 180 **Facilitating Adult Learning** (3)
Emphasis on developing and/or improving skills in formal instruction, using a wide variety of instructional strategies in adult learning situations. (Summer) Staff
- 193-94 **Research and Independent Study** (arr.)
Individual research under guidance of a staff member. (Academic year) Staff
- 200 **Special Workshop in Human Resource Development** (arr.)
Topics to be announced in the *Schedule of Classes*. May be repeated for credit. Staff
- 236 **Technical Programs in Human Resource Development** (3)
Analysis of the nature and scope of human resource development technical training in industry, government organizations, and labor unions. (Fall) Staff
- 237 **Designing Technical Training Programs** (3)
Applications of performance-based, criterion-referenced design models for technical skills training programs. Staff
- 239 **International Programs in Adult Learning** (3)
The use of adult learning programs (adult education, human resource development, higher education, etc.), in various parts of the world, as provided by international agencies, multinational companies, and public foundations. Emphasis on national development, social problems, economic growth. (Spring) Staff
- 263 **Human Resource Development** (3)
Concepts and purpose, historical backgrounds, roles of human resource development personnel, program areas. (Fall and spring) Chalofsky and Staff
- 264 **Design of Training Programs in Human Resource Development** (3)
Training, education, and development programs for various client systems will be planned using conceptual models. (Fall and spring) Dixon
- 272 **Internship in Adult Learning and Human Resource Development** (3 to 6)
Supervised experience in selected areas of: human resource development and adult education. Admission by permission of instructor. (Fall and spring) Staff
- 279 **Adult Education** (3)
Current concepts and objectives, historical development, agencies involved, personnel, clients, programs on all levels—community through international. Staff
- 280 **Program Planning in Adult Education** (3)
Determining educational needs for adults in school and nonschool agencies; designing programs and instruction; budgeting and scheduling of adult programs. Field work with sponsoring agency. Prerequisite: HRD 279 and permission of instructor. Staff
- 281 **Adult Learning** (3)
Learning theories as applied to adults in individual and group learning transactions; effect of age on learning; psychological, physical, and social environment in adult education situations. (Fall and summer) Hoare
- 282 **Instructional Strategies in Adult Learning Programs** (3)
Methods, techniques, and devices for adult learning; developing action-oriented learning situations in adult learning programs. (Spring) Staff
- 283 **Interviewing/Counseling for Human Resource Developers** (3)
Applications of interviewing, coaching, and counseling skills for the human resource development specialist and others in various occupational settings. Staff

- 284 **Evaluation of Adult Learning Programs** (3) Dixon
Evaluation design strategies for adult learning programs in business, industry, government, voluntary and community organizations, and agencies. (Fall)
- 286 **Current Issues in Adult Learning Programs** (3) Chalofsky, Dixon
Current issues and trends in the fields of adult education and human resource development. (Spring and summer)
- 287 **Management of Adult Learning Programs** (3) Chalofsky
Management of organizational units involved in promoting HRD activities. (Spring)
- 289 **Consultant-Client Relationships in Human Resource Development** (3) Chalofsky, Dixon
Examination of the consulting process, consultant-client behaviors, and dilemmas, using theory and field experience for individual and organizational development. Prerequisite: HRD 263, 279; or approval of instructor. (Fall and spring)
- 293-94 **Research and Independent Study** (1 to 3) Staff
Individual research under guidance of a staff member. Program and conferences arranged with an instructor. (Academic year)
- 299-300 **Thesis Research** (3-3) Staff
- 321 **Seminar: Adult Education** (arr.) Chalofsky
- 327 **Seminar: Human Resource Development** (arr.) Chalofsky
- 379 **Practicum in Adult Learning Programs** (3 to 6) Dixon
Supervised practical experience in various forms of adult education and human resource development. Admission by permission of instructor. (Fall and spring)
- 391 **Dissertation Research** (arr.) Staff
Prerequisite: Educ 390.

HUMAN SERVICES

- 75 **Introduction to Rehabilitation** (3) Linkowski
Overview of rehabilitation profession, including philosophy, history, ethics, legislation, settings, and practice. (Fall)
- 133 **Supervised Experience in Human Services** (3 to 6) Hoare
Fieldwork, internship, and instructional practice. Admission by permission of instructor. (Fall and spring)
- 176 **Program Planning and Development for Service Agencies** (3) Ferrante, Hoare
Examination of program planning and development activities essential to human service agencies. Through case studies and on-site field experiences, students examine and analyze a variety of processes in which agency needs are assessed and programs planned. (Spring)
- 178 **Psychosocial Aspects of Disabilities** (3) Linkowski
Impact of disabilities and concepts of normalization. (Fall)
- 181 **Medical Aspects of Disabilities** (3) Linkowski
Chronic and traumatic disorders with rehabilitation implications. (Fall)
- 182 **Organization and Administration in the Human Services** (3) Hoare and Staff
Introduction to organizational theory and program administration in non-school agencies, staff recruitment and development, fiscal operations, personnel and program supervision, facilities, and maintenance of effective community relations. (Spring)
- 193-94 **Research and Independent Study** (arr.) Staff
Individual research under guidance of a staff member. (Academic year)
- 195 **Seminar in Human Services: Current Issues** (3) Hoare
Analysis of selected issues in human services. Each student conducts an investigation of an identified problem in human services and completes a skill assessment project. Admission by permission of instructor. (Spring)
- 200 **Special Workshop in Human Services** (arr.) Hoare
Topics to be announced in the *Schedule of Classes*. May be repeated for credit.

HUMANITIES

Humanities Steering Committee

J.A.A. Plotz (Coordinator), G. Carter, J. Chaves, R.P. Churchill, E.A. Fisher, R.E. Kennedy, N.N. Natov, J.F. Thibault, D.D. Wallace

Columbian College of Arts and Sciences offers a set of interdisciplinary courses designed to provide a coherent introduction to classic works in the humanities. The courses deal with historical figures, creative works of art and literature, systems of philosophy, and religious traditions that are the common property of educated people. The full interpretation of these fundamental sources of Western culture requires the collaboration of faculty from all disciplines of study encompassed in the humanities.

1 Roots of the Western Tradition (3)

Basic ideas of Western thought from early Greek, Roman, Judaic, and Christian traditions. Representative readings in drama, epic, historical writings, oratory, creation stories, scriptural traditions, philosophy, and spiritual autobiography. Some sections are taken in conjunction with Engl 13. (Fall and spring)

2 Ideas in Western Culture: Aquinas to Locke (3)

An examination in historical context of central texts from the Middle Ages, the Renaissance, and the Enlightenment: Aquinas, Dante, Machiavelli, Erasmus, Luther, Montaigne, Bacon, Shakespeare, Rabelais, Descartes, Milton, and Locke. (Fall and spring)

3-4 Studies in 19th-Century Culture (3-3)

Through study of representative works of European and American art, music, literature, drama, philosophy, and theology, students are introduced to major themes of 19th-century culture and are initiated into the methods of analysis and interpretation characteristic of the different disciplines within the humanities. The 19th-century resources of Washington form part of the curriculum. (Academic year)

5 The 20th-Century Consciousness (3)

Major themes and paradigms of 20th-century civilization as expressed in literary and philosophic texts, visual arts, music, and cultural artifacts. Key issues include the meaning of history in the age of two world wars; the Holocaust and the crisis of reason; the authority of science; the decline of Western hegemony; modernism and postmodernism. (Spring)

43-44 Classical Humanities (3-3)

Lectures in the origins and development of Western civilization from approximately 3000 B.C. to 1300 A.D. Hmn 43 considers the civilization of the Old Testament period and of Classical Greece through readings in the Old Testament and in Homer, Aeschylus, Sophocles, Euripides, Aristophanes, Herodotus, Thucydides, Plato, and Aristotle. Hmn 44 considers the civilization of the Roman Empire and of medieval Europe through readings in Virgil, Tacitus, Augustine, Aquinas, and Dante, and in medieval romance. Offered off campus only.

45-46 Humanities in the Modern World (3-3)

Lectures in the development of Western civilization from the 14th to the 20th centuries. Hmn 45 considers Renaissance and Neoclassical culture through readings in Machiavelli, Cellini, Shakespeare, Cervantes, Bacon, Moliere, and Voltaire. Hmn 46 considers aspects of Romanticism and Modernism manifested in works by Goethe, Flaubert, Zola, Nietzsche, Mann, Chekhov, and Joyce. Offered off campus only.

INDIVIDUAL GRADUATE PROGRAMS

Committee on Individual Programs

C.E. Rice (Program Director), A.D. Andrews, B.L. Catron, J.J. Cordes, W.B. Griffith, T.L. Hufford, P.H.M. Lengermann

The Graduate School of Arts and Sciences offers the course listed below primarily for students with individualized interdisciplinary programs of study for the master's degree. The Committee on Individual Programs, which has supervisory responsibility for Individual Programs students, provides the faculty for the Colloquium.

250 Colloquium on Interdisciplinary Methodologies (3)

Staff

Analysis from several perspectives of the problems inherent in interdisciplinary study and research, conditions that justify interdisciplinary work, norms and strategies for success, and case studies. (Offered as the demand warrants)

INTERNATIONAL AFFAIRS

The Elliott School of International Affairs offers a multidisciplinary program leading to the degrees of Bachelor of Arts and Master of Arts in the field of international affairs. The program provides students with a broad background in the general areas of international affairs as well as opportunities to specialize in one of the traditional disciplines or in a regional area.

Bachelor of Arts with a major in international affairs—The following requirements must be fulfilled.

1. The general requirements stated under the Elliott School of International Affairs.
2. Prerequisite courses—see the Elliott School of International Affairs, Curriculum Requirements.

3. Required courses for the major—Econ 181–82; a foreign language through the third-year level (may be literature courses taught in the language); one course selected from Geog 132, 133, 134, 135, 145, 146, 147, 154; Hist 182 and one course selected from Hist 136, 150, 157; PSc 140 and either PSc 142 or 144. Also required are two non-U.S. cultural courses, such as IAff 90 or 91. This requirement can also be met with 100-level courses listed below under Regional Study for Africa, East Asia, Latin America, or the Middle East. Some courses offered under IAff are also acceptable. Students must take a research methods course to be chosen from among Anth 199, PSc 101 or 104, PAd 295, Soc 104, Stat 51 or 53 or 111.

4. Fifteen semester hours of additional course work must be selected from one of the following group options (courses taken in fulfillment of required courses for the major may not be applied to the selected group option).

International politics—courses concerned with theory and practice in international affairs, forces shaping the world scene, and U.S. foreign policy, selected from Geog 127, 133, 146, 147; Hist 137, 139–40, 149; PSc 105, 106, 107, 108, 130, 131, 142, 144, 146, 149, 161, 178, 182, 183, 184, 186, or 192.

International economics—courses concerned with the world economy and U.S. policy and practice in international trade and finance, selected from BAd 160, 166, 173; Econ 101, 102, 104, 121, 122, 134, 147, 151; Geog 125, 127, 133, 134, 135; Stat 111, 112.

International communications—courses concerned with the study of international information programs, public opinion, psychological warfare, cultural relations, and public relations, selected from Anth 150, 153, 157, 161, 162, 168; Comm 184; Geog 125; Jour 145, 146; Jour/PSc 128; PSc 120, 129, 146; Psyc 115, 151, 156.

Regional study—a concentration in one of the following areas.

Africa—courses selected from Anth 178; Geog 154; Hist 116; PSc 180, 181, 182.

Europe—courses selected from Art 31, 32, 109, 110, 129, 169; Econ 147; Engl 51–52, 194; Ger 51–52, 103, 104, 114, 126; Hist 128–29, 131–32, 141–42, 147, 149, 151–52, 158; Hmn 1–2, 3–4, 45–46; Mus 101, 102, 103, 104; Phil 50, 71, 112; PSc 105–106, 130, 131, 161.

East Asia—courses selected from Anth 173, 175; Chin 163–64, 179–80, 181, 182; Econ 169, 170; Geog 266; Hist 187, 188, 189, 195; Japn 111–12; PSc 170, 173, 175; Rel 2, 160.

Latin America—courses selected from Anth 170, 172, 185; Econ 185; Geog 161; Hist 161, 162, 163–64, 165; IAff 90; PSc 183, 184.

Middle East—courses selected from Anth 177; Art 116; Clas 100, 101, 102; Geog 154; Hist 158, 193, 194; PSc 176, 177, 178, 179, 180; Rel 23, 161, 164, 165.

Soviet Union and Eastern Europe—courses selected from Econ 133, 134; Geog 265; Hist 137, 145, 146, 188; PSc 108, 131 or 165, 168; Slav 71, 161–62, 165, 166.

Master of Arts in the field of international affairs—This multidisciplinary program offers a wide range of choice and flexibility among fields and courses within a framework that emphasizes intellectual development in more than one academic discipline and

practical policy-oriented study in special-functional or regional-area fields. Students may take graduate courses in anthropology, business administration, economics, geography and regional science, history, political science, psychology, sociology, and other disciplines.

Prerequisite: the admission requirements stated under the Elliott School of International Affairs and a bachelor's degree in a related field. Required: the general requirements stated under the Elliott School of International Affairs. All degree candidates must take 12 semester hours of course work and prepare for comprehensive examinations in three fields. Candidates select at least one general field from those listed below and may take no more than 21 hours in one department. Students may write a thesis if they qualify by having a minimum 3.5 G.P.A., submitting a previously written research paper of high quality, and submitting a formal thesis proposal approved by their prospective thesis advisor. These candidates may take no more than 15 hours of course work in any one department.

Beyond these limits, students are free to select any of the fields listed below, so long as they comprise a coherent program. Courses should be chosen with a view to their relevance to the selected fields. Candidates will be examined on their selected fields in the Master's Comprehensive Examination.

General fields—At least one general field must be chosen from international politics (PSc 240 and 241), comparative politics (PSc 230 and 231), modern political theory (PSc 205 and either 206 or 207), and international economics (Econ 283–84, to which Econ 217, 218 or equivalent is prerequisite).

Special fields—Fields regularly offered include international law, international organization, international economic development, international business, comparative aspects of communism, U.S. diplomatic history, U.S. foreign policy, U.S. foreign economic policy, history of strategy and policy, national security policy, and science, technology, and public policy.

Regional fields—Western Europe, Eastern Europe, Soviet Union, Middle East, Africa, South and Southeast Asia, China, Japan, and Latin America (for each geographic region, courses are generally available in modern history, government and politics, and economic problems).

The following courses carry the International Affairs (IAff) designation. All other courses listed above will be found under the appropriate department designation.

- 90 **Latin America: Problems and Promise** (3) Klarén and Associated Faculty
An interdisciplinary course in Latin American studies designed to introduce undergraduates to the diverse, rich, and complex history, politics, economic culture, and society of Latin America. (Fall)
- 91 **East Asia—Past and Present** (3) Johnson and Associated Faculty
An interdisciplinary course offering a comprehensive and integrated introduction to the civilization and present problems of East Asia. (Spring)
- 156 **InterFuture: Independent Study Abroad** (15)
Comparative research in the United States and one or two other countries included in the InterFuture program. InterFuture scholars are selected on the basis of academic record and aptitude for independent research in a foreign environment. Enrollment limited to juniors in the Elliott School. (Spring)
- 190 **Special Topics in International Affairs** (3)
Courses designed to focus on international affairs issues of a more current topical nature. Topics announced in the *Schedule of Classes*. (Fall and spring)
- 195 **Internship: International Affairs** (1 to 6)
Faculty-supervised internships in the Department of State, Organization of American States, and other agencies concerned with international affairs. Admission by permission of instructor. (Fall, spring, and summer)
- 198 **Independent Study and Research** (1 to 3)
Upper-division students only. Written permission of instructor required. (Fall, spring, and summer)

- 253 **Defense Policy and Program Analysis I** (3) Johnson
(Formerly PSc 253)
Analysis of U.S. defense budget, force posture, and program priorities. Methodology for defense planning and program evaluation. Special attention to strategic nuclear forces. (Fall)
- 254 **Defense Policy and Program Analysis II** (3) Johnson
(Formerly PSc 254)
Analytical methodology for defense policy and program choices. Special attention to U.S. general purpose forces, including forces for NATO/Europe. (Spring)
- 255-56 **Applied Quantitative Techniques** (3-3) Butterworth
(Formerly PSc 255-56)
The application of quantitative techniques in the solution of issues in defense policy. (Academic Year)
- 287 **Problems in Latin American Civilization** (3) Klarén and Associated Faculty
Interdisciplinary seminar; each student writes a report on some aspect of a selected key theme. May be repeated for credit. Admission by permission of instructor. (Fall and spring)
- 290 **Special Topics in International Affairs** (3) Staff
Courses designed to focus on international affairs issues of a more current or topical nature. Topics announced in the *Schedule of Classes*. (Fall and spring)
- 291 **Colloquium: East Asia** (3) Hinton
Colloquium for advanced students of East Asian affairs. Admission by permission of the instructor. (Fall)
- 292 **Colloquium: The Soviet Union and Eastern Europe** (3) Staff
Colloquium for advanced students of Russian and Eastern European affairs. Admission by permission of the instructor.
- 293 **Colloquium: National Defense Policies and Issues** (3) Staff
Colloquium for advanced students of security policy studies. Admission by permission of the instructor.
- 298 **Independent Study and Research** (1 to 3) Staff
Limited to M.A. degree candidates. Written permission of instructor required. (Fall, spring, and summer)
- 299-300 **Thesis Research** (3-3) Staff
(Fall, spring, and summer)

ITALIAN

See Romance Languages and Literatures.

JAPANESE

See East Asian Languages and Literatures.

JOURNALISM

Professor P. Robbins (Chair)
Professorial Lecturers F.L. Dennis, J. Coldsmith, L.B. Laurent
Associate Professors R.C. Willson, C.W. Puffenbarger
Associate Professorial Lecturers J.P. McGill, T.O. Cron, J.R. Fogarty, D.L. Smith, R.S. Becker, J.A. Echave
Assistant Professorial Lecturers E.B. Feldman, M.C. Sheward

Bachelor of Arts with a major in journalism (departmental)—The following requirements must be fulfilled:

1. The general requirements stated under Columbian College of Arts and Sciences.
2. Prerequisite courses—Engl 51-52 or 71-72; Jour 71-72; PSc 1 and 2; Stat 51 or 53.

3. Required courses in the major—24 hours of second-group courses in Journalism including (a) Jour 111, 196, 198; (b) 9 semester hours chosen from Jour 121, 125, 133, 137, 138, 139, 151, 155; and (c) 6 semester hours chosen from Jour 115, 116, 117, 128, 140, 141, 142, 145, 146, 150, 170, 190, 199.

4. Required as a secondary area of concentration—a minimum of 18 semester hours of second-group courses, chosen in consultation with the major advisor, in one other department or field of study.

Recommended electives (some of these courses may be taken to meet the general curriculum requirements of Columbian College): AmCv 71–72; Art 23; Econ 121, 142, 157, 161, 162, 181–82; Hist 71–72; Phil 45, 121; PSc 110 through 122; Psyc 115; Comm 132, 133, 134, 145; Stat 105, 129.

Enrollment into the major is restricted; contact the department office for details.

Minor in journalism—The student must complete 21 semester hours in journalism, including Jour 71 or 72; Jour 111; one course selected from Jour 115, 116, 117, or 170; three courses selected from Jour 121, 125, 133, 135, 137, 138, 139, 151, or 155; and any one other journalism course.

Special Honors—Senior journalism majors with a grade-point average of 3.5 in at least five second-group journalism courses may apply for special honors at the start of the senior year with submitted proof of ability in print or broadcast professional media. They then must complete degree requirements with grades of A or B in at least 50 percent of all work done at this institution, must earn a quality-point index of at least 3.5 for all second-group journalism courses taken, and, four weeks before expected graduation, must submit to the department published or broadcast professional work completed during the senior year.

Departmental prerequisite: Jour 111 and permission of the department are prerequisite to Jour 115, 125, 133, 135, 137, 138, 139, 151, 155, 190, and 196.

First Group

71–72 Introduction to Mass Communication (3–3)

Jour 71: Study of U.S. news media from colonial times to the present, with consideration of political, social, and economic developments. Strong emphasis on media relations with government and on the evolving concept of freedom of the press. Jour 71 can be taken concurrently with Jour 111. Those who lack knowledge of U.S. history should take Hist 71–72 before taking Jour 71. Jour 72: The U.S. press, radio, television, and other mass media today. Problems of monopoly, libel, government regulation, ethics, and news media responsibility. Brief survey of news media operations and press freedom in other nations. Jour 72 may be taken before Jour 71. (Academic year)

Second Group

111 Reporting (3)

Gathering information, evaluating it, and writing news and feature stories with emphasis on print media. Historical, ethical, and legal perspectives of journalistic reporting. Laboratory writing and live reporting assignments on campus and within the metropolitan area, with concentration on government and politics. Typing required. Freshmen must obtain departmental permission before enrolling. Laboratory fee, \$50. (Fall and spring)

115 Newspaper Editing and Make-up (3)

Modern newspaper design and the editing and page layout process. Practical work in selecting and editing stories for publication; writing headlines and photo captions; selecting, sizing, and cropping photos and other graphic materials; and laying out pages. Procedures and ethics for editors and designers. Prerequisite: Jour 111 or permission of the department. (Fall and spring)

116 Magazine Layout and Design (3)

Layout, typography, and design for magazines, newsletters, house organs, and similar publications for associations, institutions, and industry. (Fall)

- 117 **Magazine Editing** (3) Staff
The editor's responsibility to publisher and readers. Setting the editorial goals and planning content and production to meet them. Editing copy for general and specialized magazines. (Spring)
- 121 **Feature Writing** (3) Staff
Free-lancing nonfiction articles; obtaining materials through independent investigation. Permission of the instructor required. (Spring)
- 125 **Science Writing** (3) Staff
Writing science news for the mass media. (Spring)
- 128 **Government Process and the Media** (3) Manheim
Examination of the roles played by the news media that affect the political process, including the impact the media have on the Presidency, the Congress, and the bureaucracy, and the adequacy of news organizations to provide information and analysis needed by citizens to exercise effective self-government. Same as PSc 128. (Fall and spring)
- 129 **TV News: The Politics of Visibility** (3) Larson
Same as Comm/PSc 129.
- 133 **Advanced Reporting: Public Affairs** (3) Puffenbarger
Coverage and writing of local and state governmental news. (Fall and spring)
- 135 **Advanced Reporting: Consumer and Service Journalism** (3) Cron
Specialized training in writing service stories and consumer news. (Fall)
- 137 **Advanced Reporting: National Affairs** (3) Fogarty
Coverage and writing of federal government news. (Fall)
- 138 **Investigative Reporting** (3) Puffenbarger
In-depth reporting in selected areas of political, economic, and social affairs. Prerequisite: Jour 133 or permission of instructor. (Spring)
- 139 **Advanced Reporting: Radio and Television News** (3) Feldman
Preparing news and public affairs programs for broadcast media. (Fall and spring)
- 140 **Photojournalism** (3) Echave
Elements of effective news and feature photographs, including study and evaluation of slides taken by students. Picture selection, cropping, captions. Student costs include film and development of slides. (Fall and spring)
- 141 **Intermediate Photojournalism** (3) Staff
Students take, develop, and print their own black-and-white photographs for more intensive study of news and feature pictures. Some editing, layout, and photo essays. Students purchase their own film and print paper. Laboratory fee, \$75. Prerequisite: Art 23, Jour 140. (Spring)
- 142 **Advanced Photojournalism** (3) Staff
Picture stories and photo essays in black and white or color; emphasis on layout, captions, text. Students must purchase own film and print paper. Laboratory fee, \$75. Admission by permission of instructor. (Spring)
- 145 **Principles and Problems of Public Relations** (3) McGill, Mueller, Sheward
Principles, problems, and ethics of public relations for government agencies, commercial establishments, educational and other public institutions. Case histories of successful programs. (Fall and spring)
- 146 **Government Information** (3) Staff
Growth of information activities in government and the role of the information specialist. Writing and editing for government information operations. (Spring)
- 150 **News Coverage in Washington** (3) Puffenbarger
The Washington news beats, channels and sources of news in the nation's capital, uses and abuses of the media. Field trips to local news centers and press briefings.
- 151 **Editorial Writing** (3) Robbins
Techniques of editorial writing, conducting the editorial page, function of editorials and columns of news commentary in a free press. Permission of the instructor required. (Spring)

- 155 **Critical Writing and Reviewing** (3)
Reviewing and commenting on the arts and entertainment for the mass media. (Spring)
- 170 **News Publication Management** (3)
The business side of publishing. Study of the roles of advertising, circulation promotion, accounting and administration, and mechanical departments in newspapers and other publications. (Spring)
- 190 **Internship in Journalism** (3)
Study of a journalistic medium in action by working in a Washington area news office. Admission restricted to senior journalism majors selected by a departmental committee. (Fall and spring)
- 195 **Documentary Photography** (3)
Same as Art 195. Laboratory fee, \$75.
- 196 **Senior Project** (3)
Open only to journalism majors. Major journalistic effort undertaken in consultation with a member of the journalism staff. A written request describing the project must be presented to the staff member for approval and filed with the student's advisor in the semester before registration. (Fall and spring)
- 198 **Law of the Press** (3)
Freedom of the press, censorship, legislative controls, publication as contempt of court, copyright, news-gathering agencies, labor law and the newspaper business, law of libel, privileged matter, fair comment on public characters, right of privacy. (Fall)
- 199 **Special Topics in Journalism** (3)
Selected topics: writing, editing, graphics, photojournalism, or other aspects of communication. May be repeated for credit.

JUDAIC STUDIES

Committee on Judaic Studies

M. Ticktin (Chair), M. King, R. Krulfeld, J.A. Plotz, B. Reich, H.M. Sachar, H.E. Yelid.

Columbian College of Arts and Sciences offers an interdisciplinary program in Judaic Studies leading to the degree of Bachelor of Arts. This program is intended for students who wish to investigate the history, language, literature, religious and philosophical thought, and political and social experience of the Jewish people from the perspective of several academic disciplines. (Students who wish to concentrate on the religious aspects of Judaism and its relationship to the other religious traditions of the world may prefer to elect a major in religion with an emphasis on Judaism [see Religion].)

Bachelor of Arts with a major in Judaic studies (interdepartmental)—The following requirements must be fulfilled:

1. The general requirements stated under Columbian College of Arts and Sciences
2. Prerequisite courses—Clas 21–22, 23–24; Rel 9, 23.
3. Required courses for the major (30 semester hours):
 - (a) Clas 103 or 104; Hist 158; PSc 179; Rel 113–14 or 115–16, 213 or 238.
 - (b) two related courses selected from each of two of the following groups: I—Anth 177; Art 111, 112; II—Clas 100, 101, 102; Engl 175; III—Hist 107, 108, 110, 113, 114, 115, 122, 123, 124, 139, 140, 156, 171, 172, 193, 194, 250, 290, 292, 294; IV—Phil 111, 112, 113, 127, 131, 172; V—Geog 154; PSc 126, 177, 178, 277, 278, 290; VI—Rel 103, 104, 105, 106, 111, 122, 126, 137, 143, 144, 145, 146, 161, 162, 172, 174, 181, 184, 209, 291, 292.

Students applying for the 90-hour degree program in Judaic studies must, in addition to meeting the general requirements stated under Columbian College of Arts and Sciences, present evidence of exceptional preparation in the field of Judaism, provide strong recommendations from high school teachers and/or counselors, and complete a satisfactory interview with the Committee on Judaic Studies.

Minor in Judaic studies—Required: A minimum of 18 semester hours, chosen in consultation with an advisor designated by the Committee on Judaic Studies, from Clas 21–22.

23-24, 25-26, 100, 101, 102, 103, 104; Hist 156, 158; PSc 179; Rel 9, 23, 103, 107, 113, 114, 115, 116, 174, 184, 209, 213, 238.

The courses listed below represent the core of the Judaic Studies curriculum available for undergraduate and graduate students:

Clas 21-22	Beginning Hebrew
Clas 23-24	Intermediate Hebrew
Clas 25-26	Yiddish for Reading and Conversation
Clas 100	Modern Hebrew Literary Classics
Clas 101	Israeli Society and Culture: Literary Perspectives
Clas 102	Contemporary Israeli Short Stories and Poetry
Clas 103	Modern Hebrew Nonfiction
Clas 104	Modern Hebrew Fiction
Clas 185-86	Directed Reading
Hist 156	Jewish History from 70 A.D. to 1648
Hist 158	Modern Jewish History
Hist 292	Israel, Zionism, and the Arab World
Hmn 1	Roots of the Western Tradition
PSc 176	The Arab-Israeli Conflict
PSc 179	Israeli Politics and Foreign Policy
Rel 9	The Hebrew Scriptures
Rel 23	Judaism: Identities and Ideas
Rel 103	The Prophets
Rel 107	Rabbinic Literature and Thought
Rel 113	Early Post-Biblical Judaism
Rel 114	Judaism in the Rabbinic Period
Rel 115	Judaism in the Medieval World
Rel 116	Judaism After Emancipation
Rel 137	The Land of Israel and the Growth of Western Religions
Rel 174	American Judaism
Rel 184	The Thought of Martin Buber
Rel 209	Seminar: Biblical Studies
Rel 213	Seminar: Judaism in Late Antiquity
Rel 238	Seminar: Contemporary Judaism
Rel 291-92	Readings and Research

KOREAN

See East Asian Languages and Literatures.

LATIN

See Classics.

LATIN AMERICAN STUDIES

Program Committee: P.F. Klarén (Director), C.J. Allen, Y. Captain-Hidalgo, C. McClintock, M. Moore, J. Quiroga, J. Treacy, R. Valero

The Elliott School of International Affairs offers multidisciplinary programs leading to a Bachelor of Arts with a major in Latin American studies and to a Master of Arts in the field of Latin American studies.

Bachelor of Arts with a major in Latin American studies—The following requirements must be fulfilled.

1. The general requirements stated under the Elliott School of International Affairs.
2. Prerequisite courses—see the Elliott School of International Affairs, Curriculum Requirements.

3. Required courses for the major—Anth 172 or 185 or 190; Econ 185; Geog 161; Hist 163–64; IAff 287; PSc 183, 184; Span 1–2–3 and 4 or equivalent (Span 9, 10 are recommended) and two courses selected from Span 55, 56, 145, 146, 147, 148, or other approved courses in Spanish-American literature.

4. Fifteen semester hours of additional course work must be taken in one of the following departments: Anthropology, Economics, Geography and Regional Science, History, Political Science, and Romance Languages and Literatures (courses in Hispanic literature).

5. Students who plan to apply for graduation with Special Honors must take a research course in the field of concentration and complete an independent study project with distinction.

Master of Arts in the field of Latin American studies—Prerequisite: the admission requirements stated under the Elliott School of International Affairs and a bachelor's degree in a related field. Required: the general requirements stated under the Elliott School of International Affairs.

The program offers a 30-semester-hour option with a thesis or a 36-semester-hour option without a thesis. All students must take the interdisciplinary seminar, IAff 287, *Problems in Latin American Civilization*. (Students with no previous course work in Latin American history, politics, literature, geography, or anthropology should consult with the program director to determine ways to acquire the necessary background.)

All students must demonstrate proficiency in Spanish or Portuguese through a reading comprehension examination. For students whose native language is Spanish or Portuguese, an English language examination will be substituted.

Degree candidates who choose the thesis option must take Master's Comprehensive Examinations in two fields. This can include one major field (12 semester hours, including IAff 287) and one minor field (6 semester hours), or it can be two major fields (9 semester hours each).

Those who select the nonthesis option must take Master's Comprehensive Examinations in three fields, which can include one major field (12 hours) and two minor fields (6 hours each) or two major fields (9 hours each) and one minor field (6 hours). One minor field may be selected from demography, international business, rural development, urban and regional planning, tourism administration, women's studies, and science, technology, and public policy. At least two courses must be research seminars requiring a substantive paper.

The following graduate courses pertain to Latin American studies.

Anth 268	Seminar: Peasant Society
Anth 272	Seminar: Topics in Latin American Anthropology
Anth 282	Seminar: Advanced Archaeology—New World Prehistory
Econ 251	Economic Development Theories
Econ 252	Economic Development Planning
Econ 283–84	Survey of International Economic Theory and Practice
Econ 285–86	Economic Development of Latin America
Geog 223	Seminar: The Population–Food Balance
Geog 250	Seminar: Regional Development
Geog 261	Seminar: Geography of Latin America
Hist 261–62	Readings/Research Seminar: Topics in Modern 20th-Century Latin America
IAff 287	Problems in Latin American Civilization
PSc 283	Governments and Politics of Latin America
PSc 284	International Relations of Latin America

LEGISLATIVE AFFAIRS—GRADUATE PROGRAM

Academic Director C.J. Deering

The Graduate School of Arts and Sciences offers a program leading to the degree of Master of Arts in the field of legislative affairs. This program focuses on the U.S. Congress with emphasis on the legislative process, American political institutions, and public policy analysis.

Master of Arts in the field of legislative affairs—Prerequisite: a bachelor's degree with a B average from an accredited college or university.

Required: the general requirements stated under the Graduate School of Arts and Sciences. The curriculum of 33 hours of course work includes two courses from each of the four groups listed below. The remaining courses are selected in consultation with the advisor. All students must pass a Master's Comprehensive Examination.

Group I—Legislative Processes

- PSc 218 Legislative Politics
- PSc 234 Comparative Legislative Systems

Group II—The Processes of Politics

- PSc 215 Judicial Policy-making
- PSc 216 American Presidency
- PSc 219 American Political Parties and Elections
- PSc 220 Public Opinion and Political Socialization
- PSc 221 Interest-Group Politics
- PSc 226 Budgetary Politics
- PSc 227 Electoral Laws and Financial Practices
- PSc 228 Media and Politics
- PSc 246 U.S. Foreign Policy-Making
- PSc 286 Selected Topics in American Politics

Group III—Public Policy Analysis

- PSc 212 State and Urban Policy Problems
- PSc 222 Science, Technology, and Public Affairs
- PSc 224 Domestic Policy Analysis—Selected Topics
- PSc 225 Budgetary Policy
- PSc 249 U.S. National Security Policy
- PSc 250 Foreign Policy Analysis—Selected Topics
- WStu 240 Women and Public Policy

Group IV—Legislative Research and Analysis

- PSc 200 Introduction to Political Analysis
- PSc 203 Approaches to Public Policy Analysis

LIBERAL ARTS

Advisor J. Ziolkowski

Bachelor of Arts: Program in the Liberal Arts (departmental)—The following requirements must be fulfilled:

1. The general requirements stated under Columbian College of Arts and Sciences.
2. Humanities—39–45 semester hours:

(a) 6 semester hours selected from Engl 9 or 10, 11, and 101. If Engl 11 is waived by departmental examination, Engl 111 or a creative writing course may be selected along with Engl 101 in satisfaction of this requirement.

(b) 6 semester hours selected from courses in a foreign language beyond the second-year sequence. This requirement may be waived if advanced literature courses (such as Fren 51–52), in which all the reading is done in the foreign language, are taken to satisfy 2(c).

(c) 18 semester hours selected from the following: AmCv 71–72, 171–72, 771, and 772; any course in English translation offered by the Classics Department (excluding Clas 63); Chin 163–64, 181–82; Japn 111–12; any literature course offered by the English Department; any course in English translation offered by the Germanic Languages and Literatures Department; any Humanities course; Fren 53, 54, or 90; Ital 51–52; Span 53, 54, or 90; Slav 91–92. In most cases, the third year of foreign language study (such as Fren 9–10) cannot be applied toward this requirement.

- (d) 6 semester hours selected from Phil 51–52, 71, 111, 112, 113, 162, 172
 - (e) 3 semester hours selected from Rel 1, 2, 9, 10, 103, 105, 111, 113, 114, 115, 116, 121, 157, 158, 159, 160, 161, 163, 164, 165
 - (f) 6 semester hours selected from any combination of the following: any art history course (except Art 119, 162, and 173 through 198); Comm 49, 126, 143, and 144; Mus 3, 4, 7, 8, 101–2, 103–4, 109, 110, 121; TrDa 45, 46, 145–46, 151, 152, 153, 190, 191
 - 3. *Social Sciences*—18 semester hours:
 - (a) 6 semester hours of second-group history courses (excluding Hist 191–92 and 197)
 - (b) 6 semester hours selected from Econ 11–12 or PSc 1, 2, 3–4, and all political science courses numbered 105 through 186 and 190
 - (c) 6 semester hours selected from one of the following groups: Anth 2, 3, 4, 150, 151, 152, 158, 161, 162, 173, 175, 177; Geog 1, 2, and all second-group courses except Geog 101 through 107, 120, 121, 151 through 161; Psyc 1 combined with Psyc 8, 102, 103, 129, 144
 - any approved combination of courses offered by the Sociology Department
 - 4. *Natural and Mathematical Sciences*—18–22 semester hours:
 - (a) 6–8 semester hours in each of two laboratory sciences, one sequence selected from BiSc 3–4 or 11–12; Geol 1–2, 2 and 5, or 105; one sequence selected from Chem 3–4 or 11–12; Phys 1 or 21 with 5, and 2 or 22 with 6, or 9–10
 - (b) 6 semester hours selected from Math 9–10, 12–13, 30 through 33, 51–52, or another approved combination of courses that includes at least one second-group course
 - 5. *Electives*—35–45 semester hours of courses selected in consultation with the advisor
- A student must earn a grade of C– or better in all second-group courses offered in fulfillment of the requirements of this program. If a student chooses a major, elective courses may be used to fulfill its requirements. A minimum of 36 semester hours must be taken in second-group courses. See Interdisciplinary Programs under Columbian College of Arts and Sciences for a general description of this program.

LINGUISTICS

Committee on Linguistics

C.W. Linebaugh (Chair), I. Azar, Y.-K. Kim-Renaud, J. Kuipers, R.M. Robin, C. Sponsler, I. Thompson

Columbian College of Arts and Sciences offers an interdepartmental program in linguistics. The purpose of the program is to provide a systematic treatment of the central issues in linguistics through courses taught under the auspices of the program and through other departments in Columbian College.

Minor in Linguistics—15 semester hours of courses in linguistics, including Ling 101 and one course from each of the following groups. Applied Linguistics—Anth 168, 169, Chin 123–24; SpHr 118. Biological Foundations of Language—SpHr 102, 103, 120. Sociolinguistics and Historical Linguistics—Anth 161, 162; Engl 115; Phil 194. Academic advising about the minor in linguistics is available from any member of the Committee on Linguistics.

101 Introduction to Language and Linguistics

Development of a fundamental understanding of the nature of language and its components, including phonology, morphology, syntax, semantics, and pragmatics. Discussion of major approaches, principles, and concerns in the field of linguistics. (Spring)

MANAGEMENT SCIENCE

Professors P.B. Vaill, J.B. Harvey, W.E. Halal, E.H. Forman, S.A. Umpleby, J.F. Lobuts, Jr., J.D. Frame (Chair), E.K. Winslow, J.H. Carson
 Professorial Lecturers Z.A. Shavell, A.S. Adams, G.T. Solomon, A.V. Harrell
 Associate Professors W.W. Hardgrave, J.P. Coyne, L.E. Graff, T.J. Nagy, W.G. Wells, Jr., P.W. Wirtz, W.J. Wenker, J. Liebowitz, J.M. Cary, R.G. Donnelly

Associate Professorial Lecturers C.A. Gruel, J.M. Montgomery
 Assistant Professor R. Soyer
 Instructor B. Forst (Visiting)

See the School of Government and Business Administration for programs of study leading to the degrees of Bachelor of Business Administration, Master of Business Administration, Master of Science in Information Systems Technology, and Doctor of Philosophy.

First Group

- 58 **Information Systems for Managers** (3) Staff
 Technology, applications, and trends of business information systems. Hands-on experience in developing and/or using management information systems, database management systems, executive information systems, decision support systems, expert systems, and structured programming. Integration of information systems into an organization. (Fall, spring, and summer)

Second Group

- 107 **Fundamentals of Behavioral Science** (3) Lobuts, Winslow
 Survey of behavioral science research and practice as related to management. Emphasis on the basic human processes that contribute to the functioning of organizations. (Fall and spring)
- 119 **Computer Programming and Data Structures** (3) Coyne, Forman, Wirtz
 For students already familiar with basic computer concepts and programming, who will learn a programming language, such as C or COBOL, useful for business applications. Emphasis on computer applications in accounting and management information systems through hands-on programming. Prerequisite: Mgt 58 or Stat 130. (Fall and spring)
- 120 **Structured Development with CASE** (3) Carson, Wenker, Coyne
 Analysis, design, and implementation of management information systems (MIS). Structured methodologies and techniques for various stages of the MIS development process. Computer-aided software engineering tools. Prerequisite: Mgt 119 or permission of instructor. (Fall)
- 121 **Expert Database Systems** (3) Coyne, Carson, Wirtz
 Theory, architecture, and implementation of database management systems in corporate and organization information systems. Fundamental concepts of database management and processing. Expert database systems. Hands-on experience with database management packages. Prerequisite: Mgt 119 or permission of instructor. (Spring)
- 122 **Applied Artificial Intelligence** (3) Nagy, Liebowitz
 Students use artificial intelligence software to learn knowledge representation and manipulation of knowledge and to develop business systems. Prerequisite: Mgt 120 or 121 or permission of instructor. (Spring)
- 190 **Special Topics in Management Science** (3) Staff
 Experimental offering; new course topics and teaching methods. May be repeated once for credit.
- 191 **Introduction to the Computer-Based Society** (3) Wirtz
 Introduction to the role and function of computer technology in today's society. Topics include applications in office automation, business and finance, manufacturing, and education. Issue areas include changing employment patterns, computers and the individual, security and crime, and international competition. Computer software use includes word processing, spreadsheets, database management, and graphics applications packages. Open only to students who reside in Building JI. (Fall)
- 192 **Our New Era: Technology and Society** (3) Wirtz
 This is the second in the sequence for the residential program Technology and Society. In this course more advanced computer applications will be explored in the context of their relationship to societal issues, generated by the impact of

technology. Students research and report on selected technology-related issues and future trends. Student groups pursue semester projects in selected computer applications areas. Open only to students who reside in Building JJ. (Spring)

199 Individual Research (3)

Assigned topics. Admission by prior permission of advisor. May be repeated once for credit. (Fall, spring, and summer)

Third Group

201 Management of Strategic Issues (3)

Halal, Lenn, Adams

The body of management theory and practice that has evolved recently to identify, analyze, and resolve strategic organizational issues. A survey of the methodology of the field; applications to critical issues in labor relations, energy and pollution, marketing and consumerism, business-government relations, and the global economy. Prerequisite: Mgt 205 or equivalent. (Spring and summer)

205 Organization and Management (3)

Vaill, Halal

For designated students in the M.B.A. program. Integrative approach to organizational concepts, management principles, philosophy, and theory in public and private organizations. Evolution of management thought, functions, and practices, stressing present management approaches, general systems theory, and contingency management. (Fall, spring, and summer)

206 Strategic Planning (3)

Halal

Formulation of strategies that enable organizations to adapt to changing social, technological, economic, and political conditions. Lectures, discussion, and exercises examine strategic planning practices and the environmental changes affecting corporations, government agencies, hospitals, and other major institutions. Students conduct a strategic planning project for an organization. (Fall)

208 Entrepreneurship (3)

Winslow, Solomon

In exploring the "entrepreneur as a phenomenon," students will be exposed to the theory and experiences associated with entrepreneurs, entrepreneurial acts, and entrepreneurship in all organizational settings—large, small, public, and private. Prerequisite: Mgt 205 or permission of instructor. (Fall and spring)

210 Individual and Group Dynamics in Organizations (3)

Harvey, Winslow, Vaill, Lobuts

For graduate students who wish to improve their skills in dealing with human behavior in organizations. The course is designed to improve theoretical and personal understanding of the roles of interpersonal and group dynamics in management. Focus on individual and group behavior in various organizational settings. Intensive work-group experience, focusing on theory, research, and group analysis. (Fall, spring, and summer)

211 Current Issues in Organizational Behavior (3)

Winslow, Lobuts

Study of behavioral factors relating to issues such as automation, ethics, interpersonal relations, organizational change, and similar problems in organizational settings. Problems of conducting behavioral science research in organizations. (Fall)

212 Behavioral Factors in the Process of Change (3)

Harvey, Winslow

Review of research, theory, and practice related to the process of human change. Students are provided the opportunity to apply their learning, using various media. This course emphasizes the relationship between theory and practice. (Fall, spring, and summer)

213 Organization Development: A Management Function (3)

Lobuts, Harvey, Vaill

An exploration of the literature, culture, values, and skills that can assist a manager, leader, or administrator in carrying out the process of organizational development. Emphasis is on direct managerial intervention, although the role of consultants/facilitators in the process is explored. (Fall)

- 214 **Behavioral Factors in Management Consulting** (3) Harvey, Vaill, Lobuts, Winslow
Theories and methods of planning, introducing, and coping with change in management through the helping process. The dynamics of the consulting process includes phases of consultation, power dynamics, interpersonal relationships, and values. Intended both for managers seeking an understanding of the consultative approach to planned change and for persons in staff or consultative roles seeking such skills and understanding. (Spring)
- 215 **Conflict Management: Theory, Concepts, and Methods** (3) Lobuts, Harvey, Winslow
Exploration of various approaches to the causes of conflict and its resolution. Students study and experience ways to make conflict a creative rather than a destructive experience. Methods of conflict resolution are practiced. Conflict in the micro (person-to-person) and macro (system-to-system) levels are explored. Prerequisite: Mgt 210 or permission of instructor. (Fall and spring)
- 216 **Cross-Cultural Management** (3) Vaill
This course focuses on the variety of issues and opportunities that arise when managing outside one's own culture. The manager's credibility and effectiveness are assumed to be culture bound to some extent; outside of one's culture, one's actions may not mean what they do within one's culture. Emphasis on the personal level as opposed to the interinstitutional or intercultural levels. Extensive use of student experiences and research. (Summer)
- 218 **Computer Applications in Production/Operations Management** (3) Forman, Graff, Forst, Soyer
For designated students in the M.B.A. program. Fundamentals of production/operations management and its tools and techniques used to solve decision problems. Inventory management, resource allocation, production planning, project management, and forecasting. Linear programming, queuing analysis, spreadsheets, database systems, BASIC. Principles, terminology, and organization of computer systems used in dealing with production/operations management. (Course equivalent BAD 188 and Mgt 58 or two similar courses.) (Fall, spring, and summer)
- 220 **Operations Research in Decision Support Systems** (3) Forman, Graff, Hardgrave
Techniques for the solution of management problems. Potentials and limitations of mathematical models and computers and appropriate areas for their application. Topics selected from decision analysis, linear programming, probability, queuing and inventory models, regression, project management. Prerequisite: Mgt 218 and 270 or equivalent. (Fall and spring)
- 221 **Introduction to Probability Theory and Applications** (3) Hardgrave, Forman, Wirtz
Introduction to probability theory and its applications in management science and operations research; foundation course for further study of advanced probabilistic methods in operations research. Sample spaces, conditional probability, common distributions, random variables, simple stochastic processes. Prerequisite: Math 42 or 52 or equivalent. (Alternate years)
- 222 **Mathematical Programming: Techniques and Applications** (3) Hardgrave, Forman, Graff
Technical and applied considerations of linear programming and related methods. Mathematical and computational aspects of linear programming. Formulation of linear programming models. Studies of applications of linear programming. Introduction to integer programming, algorithms, and formulations. Prerequisite: Math 42 or 52 or equivalent. (Alternate years)
- 223 **Techniques of Operations Research** (3) Hardgrave, Forman, Graff
Survey and introduction to contemporary operations research techniques, including nonlinear programming, dynamic programming, inventory and queuing models, and simulation. Applications of such methods as models of common processes. Prerequisite: Mgt 221, 222. (Alternate years)

- 224 **Executive Decision Support (3)** Forman, Soyer
Concepts and methods for making complex decisions in both business and government; identifying criteria and alternatives, setting priorities, allocating resources, strategic planning, resolving conflict, and making group decisions. (Fall and spring)
- 225 **Statistical Modeling and Analysis for Decision Support (3)** Wirtz, Graff
The process of specifying, analyzing, and testing models of human and systemic behavior. Formalization of models; statistical test comparison and selection; computer implementation of univariate, bivariate, and multivariate tests; creating, sorting, and merging computerized data files; transforming and recoding data to meet statistical assumptions; hypothesis testing. Introduction to the general linear model: linear regression, analysis of variance, and analysis of covariance. Prerequisite: Mgt 270 or equivalent. (Fall and spring)
- 226 **Decision Support Systems (3)** Graff
Framework, processes, and technical components for building decision support systems dealing with unstructured and underspecified problems from managerial and organizational perspectives. Construction and exploration of decision support system models. Prerequisite: Mgt 220 or permission of instructor. (Spring)
- 229 **Modeling in Applied Operations Research (3)** Hardgrave
Advanced modeling exercises in applied operations research. Prerequisite: Mgt 223 or permission of instructor. (Alternate years)
- 230 **Management of Research and Development (3)** Donnelly, Wells
Technological, economic, and political factors that influence research and development in private, military, and other public organizations. Science and technology policy issues. Management for innovation. Methods for selection of projects, allocation of resources, and technology planning. The management of projects of various scales and introduction to flexible manufacturing. Protection of intellectual property and indicators of technological achievement. Corporate venture divisions. Case studies of organizations active in various facets of technology development, both domestic and international. (Fall and spring)
- 231 **Project Management (3)** Wells, Frame
Practical examination of how projects can be managed from start to finish, including specific emphasis on planning and controlling to avoid common pitfalls. Identifying needs, defining requirements, project costing, scheduling, resource allocation, and project politics. Configuration management; microcomputer applications. (Fall, spring, and summer)
- 232 **International Science and Technology (3)** Frame, Wells
Technology transfer among advanced countries and LDCs; national science and technology policies of various countries; international comparisons of scientific and technological capabilities; the technological basis for international trade and business; international licensing, patenting, and joint ventures; science and technology in economic development; international organizations; global transfer of military technologies; export controls of technology; major global issues concerning science and technology. (Fall, spring, and summer)
- 233 **Emerging Technologies (3)** Halal, Frame
Exploration of new developments in scientific and technological innovation, including automation, energy, medicine, bioengineering, social science, information technology, states of consciousness, and space. Emphasis on forecasting these technological advances and assessing their economic and social effects. An overarching theme is the role of advancing technology in driving social change. (Spring)
- 235 **Technological Entrepreneurship and Innovation (3)** Donnelly, Frame
Insight into the process of innovation and entrepreneurship in new ventures. Organizing for innovation, raising venture capital, tax considerations, managing the small technology-based venture, marketing technology. Case studies of companies involved in recent low- to high-tech ventures. Group development of a model business plan for a technology-based venture. (Spring and summer)

- 239 **Seminar: Management of Technology Development** (3) Donnelly, Wells
Capstone course providing an overview and integration of the field of management of science, technology, and innovation in the private and public sectors. Implementation of technology in the public sector and its commercialization in the private sector. The technology development process, from the early stages of new product conceptualization to marketing and operational use. A major simulation completes the course. Prerequisite: a minimum of 6 semester hours of field-related courses as prescribed by the instructor or permission of instructor. (Fall)
- 240 **Survey of Information Technology** (3) Graff, Carson, Liebowitz, Wenker
Management-oriented survey of key areas in information technology, including hardware, software, systems development, management, and the computing milieu. Prerequisite: Mgt 218 or permission of instructor. (Fall, spring, and summer)
- 242 **Systems Analysis for Information Systems** (3) Wenker, Liebowitz
Systems analysis for the development of a requirements specification for an information system. Topics include CASE (computer-assisted software engineering) tools, data gathering, information flow modeling, data item identification, data file organization, input/output requirements identification, and the identification of other requirements, such as reliability, response time, workload capability, environmental conditions, and training. Prerequisite: Mgt 240. (Fall and spring)
- 243 **Human Factors in Information Systems** (3) Nagy, Coyne, Cary
The user-system interaction that occurs with computerized information systems. The human factors of on-line dialogues, user psychology of computer systems, and various approaches to user-system interaction are considered. Examples of user-system interfaces from a variety of personal computer systems. Emphasis on the development of effective user-system interfaces using artificial intelligence software. Prerequisite: Mgt 240. (Fall and spring)
- 244 **Telecommunications: Technology, Applications, and Operations** (3) Cary
Basic technical concepts, applications, and trends of telecommunications; operations; cost considerations of implementing telecommunications systems. Prerequisite: Mgt 240. (Fall and spring)
- 245 **Database Management for Information Systems** (3) Coyne, Cary
Introduction to the theory, architecture, and implementation of database management systems in corporate and organization information systems. Emphasis on fundamental concepts of database management and processing; broad understanding of designing data bases for business applications and implementing such data bases using commercially available packages; current trends in database systems. Prerequisite: Mgt 240 or permission of instructor. (Fall and spring)
- 249 **Seminar: Information Technology** (3) Wenker
Current trends in the design and implementation of computer-supported systems; emphasis on current state of the art through discussion with leading experts in the field and analysis of literature. Prerequisite: Mgt 240, 242, 243; or permission of instructor. (Fall and spring)
- 253 **Information Security Systems** (3) Wenker, Cary
An advanced course in information technology, emphasizing the philosophies, principles, and practices of security management in and impact of privacy legislation on computer-based systems. Risk assessment, state-of-the-art measures, trends in the information security field, and roles of the various levels of management and technological staff. Prerequisite: Mgt 218 or 240. (Spring)
- 255 **Applied Expert Systems** (3) Nagy, Liebowitz
Expert systems are interactive computer programs that can perform as well as experts in some specialized area, explain their reasoning and conclusions, tolerate incomplete and imprecise descriptions, and perform non-numeric computations. Students obtain hands-on experience in using expert system technology by building a Business Expert System. Prerequisite: Mgt 240 or permission of the instructor. (Fall, spring, and summer)

- 261 **Introduction to Systems Theory and Cybernetics** (3) Umpley
Systems theory and cybernetics provide principles that govern information processing and decision-making activities, whether these occur in human beings, machines, or social organizations. The course covers ways of conceptualizing systems, strategies for regulating systems, and paradoxes involved in self-regulation. (Fall)
- 262 **Methods for Making Organizations Adaptive** (3) Umpley
An adaptive organization must solve day-to-day problems and periodically restructure itself to meet new challenges and opportunities. The course reviews several strategies for conducting a group planning process and introduces several models of ideal organizations. Students conduct an interactive planning process with people in an organization. (Spring)
- 264 **System Dynamics Modeling** (3) Umpley
Computer modeling of organizational problems using system dynamics and the dynamo programming language. Review of previous applications of system dynamics and comparison of system dynamics with other modeling approaches. Causal influence diagrams, level and rate diagrams, equations, testing, and analysis. In conjunction with people in an organization, students develop a system dynamics model of some aspect of the organization. (Fall)
- 265 **Artificial Intelligence and Cybernetics** (3) Umpley
Artificial intelligence is one approach to building computers that simulate human behavior. Cybernetics provides a theory of information processing and cognition that can be used in designing software and in assessing the implications of new computer technology for individuals and organizations. The course reviews the theoretical and philosophical literature on the prospects for automating intelligent behavior. (Spring)
- 270 **Mathematics and Statistics for Management** (3) Forman, Graff, Hardgrave, Wirtz, Soyars
For designated students in the M.B.A. program. Mathematical and statistical concepts employed in the solution of managerial problems. Applications of functions, elements of calculus and linear algebra. Introduction to probability, frequency distributions, statistical inference, and regression and correlation (Fall, spring, and summer)
- 275 **Advanced Statistical Modeling and Analysis** (3) Hardgrave, Wirtz
Advanced topics associated with the general linear model. Testing for and remediation of assumption violations, such as homoscedasticity, normality, and linearity. Detection of outliers, influential observations, and multicollinearity. Alternative design strategies in the analysis of variance (e.g., blocking, repeated measures); a priori and a posteriori tests; testing for interactions and parallelism. Prerequisite: Mgt 225 or permission of instructor. (Fall and spring)
- 276 **Exploratory and Multivariate Data Analysis** (3) Hardgrave, Wirtz
Introduction to graphical and other methods for exploratory data analysis. Application and comparison of advanced multivariate analytical procedures selected from principal components analysis, factor analysis, multivariate analysis of variance, discriminant analysis, canonical correlation, multidimensional scaling, linear structural modeling, cluster analysis, path analysis, loglinear analysis, and maximum likelihood latent structure analysis. Prerequisite: Mgt 225 or permission of instructor. (Spring)
- 280 **Information Systems Development and Application** (3) Cary, Carson
Current philosophies, principles, and practices common to development and application of information systems. Classical and structured systems development. Alternative automated development approaches, including prototyping using fourth generation languages and evolving computer-aided software engineering tools, with emphasis on systems analysis. Prerequisite: M.S. in I.S.T. degree candidacy or permission of instructor. (Fall, spring, and summer)
- 281 **Foundations of Artificial Intelligence** (3) Wirtz, Nagy, Liebowitz
Logical foundations, components, and processes of automated reasoning systems. Alternative inference rules and their relationship to problem types. Intro-

- duction to the use of predicate calculus, recursive techniques, and linked lists in the solution of logical problems. Students use the computer to solve alternative problem types in a contemporary artificial intelligence language. Prerequisite: M.S. in I.S.T. degree candidacy or permission of instructor. (Fall)
- 282 **Information Systems and Telecommunications** (3) Cary, Carson
Principles of telecommunications; applications of telecommunications for the transmission of data communications to enhance the flow of information within an organization. Identifying opportunities for applying technology in ways that will support the efforts of an organization. Terminology, hardware and software considerations, and the Open System Interconnection model-based communication. Prerequisite: M.S. in I.S.T. degree candidacy or permission of instructor. (Fall, spring, and summer)
- 283 **Topics in Higher-Level Languages** (3) Carson, Nagy, Wirtz
The emerging high-level languages used for the development of information systems. The very-high-level languages, such as PROLOG, MUMPS, and APL, are addressed along with systems languages, such as C, Modula 2, and Ada. The syntax, semantics, and applicability of the languages are discussed in detail. Not all languages are offered every semester; programming assignments are made in the languages studied. May be repeated once with approval of instructor. Prerequisite: Mgt 120 and 280. (Fall and spring)
- 284 **Database Systems** (3) Coyne, Cary
An in-depth approach to the understanding and use of the latest techniques for developing and implementing an effective database system. Topics include database organization, creation, and maintenance; evaluation criteria; standardization of database systems; and analysis of the state of the art in database development. Prerequisite: M.S. in I.S.T. degree candidacy; Mgt 280 or permission of instructor. (Fall and spring)
- 285 **Workshop in Database and Expert Systems** (3) Coyne
Analysis and solution of complex information problems through commercially available database and expert systems; development of evaluation methodology, comparison of implementation strategies. Hands-on experience with major commercial systems. Prerequisite: M.S. in I.S.T. degree candidacy; Mgt 284 or permission of instructor. (Fall and spring)
- 286 **Operating Systems** (3) Carson
Principles of operating systems; role of the operating system in resource allocation activities inherent in large-scale digital computers. The specialized functions of these systems are defined, and logical requirements of each are specified, including data structuring, multiprogramming, I/O spooling, and job control. Commercial operating systems studied as examples. Prerequisite: M.S. in I.S.T. degree candidacy. (Fall)
- 287 **Design of On-Line Information Systems** (3) Carson
Introduction to the analysis, design, and implementation of on-line business information systems. Topics include requirements analysis, functional specifications, file design, man-machine dialogue design, response time requirements, user psychology. Prerequisite: M.S. in I.S.T. degree candidacy; Mgt 284 or permission of instructor. (Spring)
- 288 **Applied Artificial Intelligence Programming** (3) Nagy, Wirtz, Liebowitz
Experience in exploiting new methods of developing both traditional and artificial intelligence computer applications based on programming methods originating in artificial intelligence research. The focus of the course is rule-based, frame-based, example-based, object-oriented, and neural-net programming. Students use one or more of these to build a traditional system or an artificial intelligence system. Prerequisite: M.S. in I.S.T. degree candidacy or permission of instructor. (Spring)
- 290 **Special Topics in Management Science** (3) Staff
Experimental offering; new course topics and teaching methods. May be repeated once for credit.

- 298 **Directed Readings and Research in Management Science** (3)
(Fall and spring)
- 299 **Thesis Seminar** (3)
(Fall and spring)
- 300 **Thesis Research** (3)
(Fall and spring)

Fourth Group

Fourth-group courses are primarily for doctoral students. They are offered as the demand requires. They are open to selected master's students upon petition approved by the Associate Dean.

- 311 **Seminar: Public-Private Sector Institutions and Relationships** (3)
An analysis and critique of alternative theoretical frameworks for describing understanding, and predicting the nature, values, and actions of American public and private institutions. Problems, potentials, and alternatives for structuring public and private institutional arrangements to meet the needs of society. Prerequisite: doctoral degree candidate status. (Academic year)
- 328 **Seminar: Operations Research** (3)
Special topics and advanced applications in operations research, such as catastrophe theory, Markovian decision processes, or applications of the calculus of variation in economics and finance. May be repeated once for credit. Prerequisite: Mgt 223 or permission of instructor.
- 365 **Seminar in Cybernetics and General Systems Theory** (3)
A review of recent literature in the field; guiding questions that have led to the development of general systems theory and cybernetics; comparison of these theories with other approaches to understanding organizations and management. Prerequisite: Mgt 262. (Spring)
- 385 **Special Topics in Research Methods** (3)
Research problems and issues related to student dissertations form topics for readings, group discussions, and assigned papers. (Fall and spring)
- 390 **Philosophical Foundations of Administrative Research** (3)
Philosophy of science as applied to research in administration. Topics include the nature and current problems of epistemology, the development and role of theories, and the relationship between theory, methodology, and empirical data. (Fall and spring)
- 391 **Methodological Foundations of Administrative Research** (3)
Examination of the process of social science research. Use of models and theoretical frameworks in research; formulation of research questions, hypotheses, operational definitions, research design, sampling methods, and data analysis approaches. Primary emphasis on the development of dissertation proposals. (Fall and spring)
- 398 **Advanced Reading and Research** (arr.)
Limited to doctoral candidates preparing for the general examination. May be repeated for credit. (Fall and spring)
- 399 **Dissertation Research** (arr.)
Limited to doctoral candidates. May be repeated for credit.

MATHEMATICS

Professors T.P.G. Liverman, H. Kenyon, I. Katz (Chair), H.D. Junghenn, I.I. Glick
Adjunct Professor J. Eftis
Professorial Lecturers Y. Akiyama, B.R. McDonald
Associate Professors M.P. Lee, E.A. Stone, M.M. Gupta
Assistant Professors F.E. Baginski, D.H. Ullman, V. Harizanov, E.A. Robinson, R. Simon
K.G. Hockett, J. Bonin
Assistant Professorial Lecturer P. Echeverria
Instructor N. Taghavi

Bachelor of Arts or Bachelor of Science with a major in mathematics (departmental)—The following requirements must be fulfilled:

1. The general requirements stated under Columbian College of Arts and Sciences.
2. Prerequisite courses—Math 31, 32, 33.
3. Required courses in the major—a minimum of 24 semester hours of second-group courses in mathematics, including Math 106, 121, 123, 139, and 140. It is also strongly recommended that students take French, German, or Russian, and mathematically related courses in such subjects as physics, statistics, economics, and engineering.
4. Undergraduates who want honors status should contact a department advisor for a specific program. Such status may be requested as early as completion of Math 32.

Bachelor of Arts or Bachelor of Science with a major in applied mathematics (departmental)—The following requirements must be fulfilled:

1. The general requirements stated under Columbian College of Arts and Sciences.
2. Prerequisite courses—Math 31, 32, 33.
3. Required courses in related areas:
 - (a) Stat 189–90.
 - (b) Eighteen semester hours to be selected, in consultation with the department advisor, from economics, statistics, engineering, physical sciences, or computer science.

At least 12 semester hours must be chosen from one area, and at least 12 semester hours must be chosen from courses numbered 101 or higher. For courses in applied science, civil engineering, electrical engineering, computer science, engineering administration, mechanical engineering, and operations research, see the *School of Engineering and Applied Science Bulletin*.

4. Required courses in the major—a minimum of 24 semester hours of second-group courses in mathematics, including Math 111, 112, 124, 139, 140, and at least two courses from Math 180, 181–82. It is also strongly recommended that students take French, German, or Russian.

5. Undergraduates who want honors status should contact a department advisor for a specific program. Such status may be requested as early as completion of Math 32.

Minor in mathematics—Requirements: a minimum of 18 semester hours in mathematics courses, of which at least 9 hours must be at the 100 level or higher, chosen in consultation with a departmental advisor.

Master of Arts in the field of mathematics—Prerequisite: a bachelor's degree with a major in mathematics from this University, or an equivalent degree.

Required: the general requirements stated under the Graduate School of Arts and Sciences. Students must complete 30 semester hours of approved course work, with or without a thesis, and must pass a comprehensive examination.

Master of Arts or Master of Science in the field of applied mathematics—Prerequisite: a bachelor's degree with a major in mathematics or a related field such as statistics, a physical science, engineering, or economics.

Required: the general requirements stated under the Graduate School of Arts and Sciences. Course work is divided between mathematics courses and courses from one area of application—economics, engineering (civil, electrical, or mechanical engineering; operations research; or engineering administration), physics, statistics, or urban and regional planning. Courses in the chosen area of application are selected in consultation with the relevant department.

Candidates for the degree of Master of Arts or Master of Science in the field of applied mathematics approved must complete 30 semester hours of approved course work, which may include Math 299–300 *Thesis Research*, and must pass a comprehensive examination. At least 15 semester hours must be in mathematics courses, with no more than 6 hours of these from approved second-group courses. The remaining courses are chosen from the selected area of application. Theses are jointly supervised by the Department of Mathematics and the department concerned with the area of application. There is no thesis requirement.

Doctor of Philosophy in the field of mathematics—Required: the general requirements stated under the Graduate School of Arts and Sciences. The department doctoral program committee, after consultation with the student, will stipulate (1) courses that must be taken to fulfill the 48-semester-hour requirement leading to the General Examination; (2) the two languages, selected from French, German, or Russian, to satisfy the foreign language requirement; and (3) the four areas of study in which the student must prepare for the General Examination. The doctoral program committee will appoint a Director of Research when the student has selected (preferably early in the program) one of the following research fields for the dissertation: functional analysis (abstract differential equations, generalized functions, groups of operators), group representations, linear algebra (matrix theory), logic, theory of computability, measure and integration, numerical analysis, ordinary and partial differential equations, combinatorics, graph theory, ergodic theory, dynamical systems, semigroups, and topology (general topology, analytic topology, topological groups).

First Group

- 3 **College Algebra** (3) Gupta and Staff
Equivalent to the standard two years of high school algebra with several additional topics. Prerequisite: one year each of high school algebra and high school geometry. (Fall and spring)
- 6 **Plane Trigonometry** (3) Gupta and Staff
Prerequisite: two years of high school algebra and one year of high school geometry, or Math 3. (Fall and spring)
- 9 **General Mathematics I** (3) Katz and Staff
Logic, mathematical induction, sets, and elementary combinatorial analysis. (Fall and spring)
- 10 **General Mathematics II** (3) Katz and Staff
Introduction to probability, vectors and matrices, systems of linear equations, linear programming, graph theory. (Fall and spring)
- 12 **General Mathematics with Computers I** (3) Liverman
Sets; logic; vectors and matrices. Functions and graphing instruction is accompanied by microcomputer practice, using the APL programming language. Primarily for nonscience majors. No computer experience needed. This course is an alternative to Math 9. (Fall)
- 13 **General Mathematics with Computers II** (3) Liverman
Introduction to the basic concepts of calculus. Elements of probability theory. Elements of trigonometry. Topics are presented with microcomputer accompaniment, using the APL programming language. Primarily for nonscience majors. This course is an alternative to Math 10. Prerequisite: Math 12. (Spring)
- 30 **Precalculus** (3) Kenyon and Staff
Set theory, inequalities, basic analytic geometry, functions and relations. Polynomial, trigonometric, logarithmic and exponential functions. Prerequisite: Math 3 and 6; or one and one-half years of high school algebra, one year of high school geometry, and one-half year of high school trigonometry; or equivalent. Prior to registration, new students are encouraged to take a placement examination in algebra and trigonometry. (Fall and spring)
- 31 **Single-Variable Calculus I** (3) Kenyon and Staff
Differentiation and integration of algebraic and transcendental functions with applications. Prerequisite: Math 30 or equivalent. (Fall and spring)
- 32 **Single-Variable Calculus II** (3) Kenyon and Staff
Techniques of integration. Taylor formula. L'Hopital's rules. Infinite series; polar coordinates; 3-dimensional vectors. Prerequisite: Math 31. (Fall and spring)
- 33 **Multivariable Calculus** (3) Kenyon and Staff
Vector-valued functions. Partial differentiation. Multiple integrals. Topics in vector calculus, including the theorems of Gauss, Green, and Stokes. Prerequisite: Math 32. (Fall and spring)

- 34 **Computer Laboratory for Math 31** (1) Staff
Function tabulation, curve sketching, limits, continuity, derivatives, optimization, integrals, Riemann sums, areas. Required: Concurrent registration in Math 31.
- 35 **Computer Laboratory for Math 32** (1) Staff
Integrals, sequences and series, parametric equations, conic sections. Required: Concurrent registration in Math 32.
- 36 **Computer Laboratory for Math 33** (1) Staff
Partial derivatives, surfaces, level sets, extrema of functions of several variables, vector fields. Required: Concurrent registration in Math 33.
- 37 **Computer Programming with Calculus** (3) Gupta
Computer programming in conjunction with calculus, leading to a better appreciation of basic concepts, especially infinity and infinitesimals. Fundamentals of FORTRAN or BASIC, limits of functions and quotients, derivatives as limits of quotients. Increments and differentials (e.g., volumes as functions of radii); rates of change, indeterminate forms; definite integrals; trapezoidal rule; areas and volumes.
- 41 **Calculus for Economists I** (4) Junghenn and Staff
Differentiation and integration of algebraic and elementary transcendental functions; marginal analysis for functions of one variable; optimization of functions of one variable applied to economics. Prerequisite: Math 30 or equivalent. (Fall)
- 42 **Calculus for Economists II** (4) Junghenn and Staff
Elementary linear algebra with economics applications, including input-output models; partial derivatives; multiple integrals; marginal analysis for functions of several variables; optimization of functions of several variables applied to economics; infinite series. Prerequisite: Math 41. (Spring)
- *51 **Finite Mathematics for the Social and Management Sciences** (3) Glick and Staff
Systems of linear equations, matrix algebra, linear programming, and mathematics of finance. Prerequisite: Math 3 or equivalent. (Fall and spring)
- *52 **Calculus for the Social and Management Sciences** (3) Glick and Staff
Differential and integral calculus of functions of one variable; applications to business and economics. Prerequisite: Math 51 or equivalent. (Fall and spring)

Second Group

- 101 **Introduction to Mathematical Logic** (3) Harizanov
Mathematical or symbolic logic as the foundation of mathematics and a precise formalization of deductive thought. Logical correctness of real-life and mathematical reasoning. Formal languages, truth, and interpretations. Methods of proof that a conclusion follows logically from given assumptions. Two formalizations of human reasoning: the simpler propositional logic and first-order quantifier logic suited to deductions encountered in mathematics. Open to sophomores with the permission of the department. Prerequisite: Math 32 or permission of instructor. (Fall, odd years)
- 102 **Axiomatic Set Theory** (3) Harizanov
Set theory as a branch of mathematics and as the foundation for all branches of contemporary mathematics. Cantor's theory of sets. Contradictions in mathematics; Russell's paradox. Axiomatization of set theory as a framework for a contradiction-free mathematics. Zermelo-Frankel axioms; finite, countable, and uncountable sets; ordinal and cardinal numbers; construction and characterization of the integers, rationals, and reals. Prerequisite: Math 101 or permission of instructor. (Spring, odd years)

* Social and management science students with a strong record in high school mathematics are advised to take Math 31, 32, and 124 instead of Math 51 and 52. Economics students are advised to take Math 41 and 42.

- 103 Computability (3)**
 An introduction to the basic ideas and results of computability theory (recursion theory). The unlimited register machine as a model of an idealized computer. Computable functions, Church's thesis, and decidable problems. Numbering programs, diagonal method, universal programs. Effective enumerability, creative and productive sets. Unsolvability of the halting problem and other theoretical limitations on what computers can do. Some other topics, such as Turing reducibility and degrees and Kleene's fixed-point theorem, are touched upon.
 Prerequisite: Math 32 or permission of instructor.
- 105 Problem Solving and Mathematical Proofs (3)**
 Types of reasoning encountered in mathematics. Techniques of problem solving and writing proofs. Induction. Relations. Cardinality. Introduction to the major subdisciplines of mathematics. Prerequisite: Math 32. (Spring)
- 106 Introduction to Topology (3)**
 Prerequisite: Math 139 or permission of instructor. (Fall)
- 107 Introduction to Algebraic Topology (3)**
 Prerequisite: Math 122 and 139, or permission of instructor. (Fall, even years when demand warrants)
- 111 Mathematics for Engineers and Physicists I (3)**
 Differential equations. Laplace transform. Series solutions of differential equations. Boundary value problems. Prerequisite: Math 33. (Fall)
- 112 Mathematics for Engineers and Physicists II (3)**
 Vector analysis. First- and second-order partial differential equations. Topics in complex variables. Prerequisite: Math 111. (Spring)
- 113 Introduction to Combinatorics (3)**
 General introduction to combinatorial enumeration and graph theory. Basic counting techniques, inclusion-exclusion principle, recurrence relations, generating functions, pigeonhole principle, bijective correspondences, basic graph theory, applications. Prerequisite: Math 32; Math 132 is recommended but not required. (Fall and spring)
- 120 Elementary Number Theory (3)**
 A broad survey of elementary number theory. Topics include divisibility of integers, prime numbers, greatest common divisor, the Euclidean algorithm, congruence, the Chinese remainder theorem, number theoretic functions, Möbius inversion, Euler's Phi function, primitive roots and indices, applications to cryptography, and primality testing. Either the distribution of primes or the quadratic reciprocity law will also be treated. Prerequisite: three years of high school mathematics.
- 121-22 Introduction to Abstract Algebra (3-3)**
 Selected topics in elementary number theory, groups, rings (including polynomial rings), and fields. Open to sophomores with permission of department.
 Prerequisite: Math 32 or permission of instructor. (Academic year)
- 123 Linear Algebra (3)**
 Theory of vector spaces, linear transformations, and matrices. Quadratic and bilinear forms, spectral decomposition. (Fall)
- 124 Linearity and Matrices (3)**
 Operations on matrices, linear equations, matrix inversion, vector spaces, characteristic roots and vectors. Hamilton-Cayley theorem. Systems of linear difference and differential equations. Quadratic forms. Applications to economic, biological, and physical models. Prerequisite: Math 32 or 42 or permission of instructor.
 (Fall and spring)
- 125 Linear Programming (3)**
 Simplex algorithm, degeneracy, the assignment problem, duality theorems, postoptimality, the transportation problem, integer programming, applications. Prerequisite: Math 123 or 124, or equivalent. (Offered when demand warrants)

- 132 **Introduction to Discrete Structures** (3) Staff
Joint offering of the Statistics and Mathematics Departments. Discrete structures and associated mathematical tools. Topics include sets, functions, relations, directed and undirected graphs, propositional calculus, Boolean algebras, with applications to computer science. Prerequisite: Stat 130 and Math 31. (Fall)
- 134 **Introduction to Boundary-Value Problems** (3) Gupta and Staff
Prerequisite: Math 111 or 142. (Offered when demand warrants)
- 135 **Projective Geometry** (3) Staff
Prerequisite: Math 123 or 124, or equivalent. (Offered when demand warrants)
- 139 **Advanced Calculus I** (3) Junghenn and Staff
A rigorous study of differentiation, integration, and convergence. Topics covered: sequences and series, continuity and differentiability of real valued functions of a real variable, the Riemann integral, sequences of functions, and power series. Prerequisite: Math 33 or equivalent. (Fall)
- 140 **Advanced Calculus II** (3) Junghenn and Staff
Continuation of Math 139. Topics covered include topology of \mathbb{R}^n , derivatives of functions of severable variables, inverse function theorem, implicit function theorem, multiple integrals, Stokes's theorem. Prerequisite: Math 139 or equivalent. (Spring)
- 141 **Differential Geometry** (3) Baginski
Curves in space, regular surfaces, tensors, fundamental forms of a surface. Gauss's Theorema Egregium, Gauss-Bonnet theorem, minimal surfaces, theory of relativity. Prerequisite: Math 140; Math 123 or 124 or permission of instructor. (Fall)
- 142 **Introduction to Differential Equations** (3) Glick and Staff
Linear and some nonlinear differential equations. Topics include existence theorems, stability, control theory, limit cycles, and applications to physics and ecology. Prerequisite: Math 139 and 123 or 124, or permission of instructor. (Spring)
- 153 **Introduction to Numerical Analysis I** (3) Gupta and Staff
Accuracy and precision. Linear systems and matrices. Direct and iterative methods for solution of linear equations. Sparse matrices. Solution of nonlinear equations. Interpolation and approximate representation of functions, splines. Prerequisite: Math 33 or equivalent and some knowledge of computer programming. (Fall, even years)
- 154 **Introduction to Numerical Analysis II** (3) Gupta and Staff
Numerical differentiation and integration. Solution of ordinary differential equations. Introduction to optimization theory, gradient techniques. Least squares and applications, data fitting. Prerequisite: Math 153 or permission of instructor. (Spring, odd years)
- 157 **Introduction to Complex Variable Theory** (3) Liverman and Staff
Analytic functions. Power series. Contour integration and calculus of residues. Conformal mapping. Physical applications. Prerequisite: Math 139 or permission of instructor. (Spring)
- 168 **Seminar: Curriculum Studies** (3) Staff
Open only to candidates for the degree of Master of Science for Teachers, teachers for in-service training or students recommended by the department of education. Critical examination of secondary school mathematics, curricula, techniques and programs. Prerequisite: Math 31 and permission of instructor. (Offered when demand warrants)
- 170 **Computational Complexity** (3) Harizanov
Deterministic and nondeterministic Turing machines. Partial recursive functions and the Church-Turing thesis. Undecidable problems. Space and time complexity measures. Gap, speed-up, and union theorems. Decidable but intractable problems. The traveling salesman problem and other NP-complete problems. Prerequisite: Math 32 or permission of instructor.

- 180 Computer Mathematics and Modeling (3)**
Introduction to the APL programming language in the context of applications of numerical methods in mathematics and the sciences. Construction of mathematical models of physical and other systems. Individual or team projects using the microcomputer. Prerequisite: Math 32; Math 124 or permission of instructor. (Fall)
- 181-82 Seminar: Applied Mathematics (3-3)**
Prerequisite: Math 140, Stat 189-90, some knowledge of linear algebra, senior status as major in Applied Mathematics. (Academic year)
- 191 Special Topics (arr.)**
Admission by permission of instructor. May be repeated for credit. Offered upon demand.
- 195 Reading and Research (arr.)**
Under the personal direction of an instructor. Limited to mathematics and applied mathematics majors with demonstrated capability. Prior approval of instructor required. May be repeated for credit. (Fall and spring)

Third Group

Courses marked with an asterisk are offered every year. Courses listed by title alone are offered when, and with such contents, as demand warrants.

- 201-2 Modern Algebra I-II (3-3)**
Group theory including symmetric groups, free abelian groups, finitely generated abelian groups, Sylow theorems, solvable groups, nilpotent groups. Ring theory including factorization in commutative rings, rings of polynomials and formal power series, chain conditions, semisimple rings, Wedderburn-Artin theorems, primary decomposition, Dedekind domains. (Academic year)
- 203 Modern Algebra III (3)**
Algebraic and transcendental field extensions, splitting fields, normal extensions, fundamental theorem of Galois theory, solvability by radicals, valuation theory. (Fall, odd years)
- 204 Representation Theory (3)**
Representations of finite groups, including symmetric group, group characters and induced representations. Prerequisite: Math 202. (Fall)
- 205 Matrix Theory (3)**
Topics to be chosen from generalized inverses of matrices and their applications to solutions of equations and to LP problems; positive definite matrices and their applications; Riemann matrices; linear groups; quadratic forms and Hilbert's eleventh problem; numerical range of linear operators. (Spring, even years)
- 206 Topics in Algebra (3)**
May be repeated for credit.
- 209-10 Theoretical Methods in Classical and Quantum Physics (3-3)**
Joint offering of the Mathematics and Physics Departments. Topics covered include solutions of partial differential equations encountered in physics; techniques of linear algebra; calculus of variations; complex analysis; applications in physics of the theory of analytic functions; integral equations; and group theory in physics.
- *211 Complex Analysis I (3)**
Topology of complex numbers; elementary functions; integrals; Cauchy's theorem; maximum modulus and Liouville theorem; Taylor and Laurent series; classification of singularities; contour integration; the residue theorem; continuation, multivalued functions, and branch points. Prerequisite: advanced calculus. (Spring)
- 212 Complex Analysis II (3)**
Harmonic functions, partial fractions. Mittag-Leffler theorem; entire functions, the Hadamard product theorem, the gamma function; Hurwitz's theorem, normal families of functions. The Riemann mapping theorem; analytic continuation.

- Riemann surfaces. Prerequisite: Math 211 or equivalent. (Spring, even years, when demand warrants)
- 213 **Applications of Complex Analysis** (3) Liverman and Staff
Topics chosen from potential theory and conformal mapping, special functions, asymptotic expansions; steepest descent, stationary phase, and WKB methods. Fourier and Laplace transforms, Wiener-Hopf method, dual and singular integral equations. Prerequisite: Math 211 or an undergraduate course in complex variables. (Spring, odd years, when demand warrants)
- *214 **Measure and Integration Theory** (3) Ullman and Staff
Lebesgue measure and integration in abstract spaces. Probability measures. Absolute continuity; Radon-Nikodym theorem; measure on product spaces; Fubini theorem. L^p spaces. Prerequisite: advanced calculus. (Fall)
- *215 **Introduction to Functional Analysis** (3) Robinson and Staff
Topological and metric spaces; Tychonoff theorem; completion of a metric space; normed and Banach spaces; linear functionals and operators; Hahn-Banach theorem; principle of uniform boundedness; the closed-graph theorem and interior mapping principle; Hilbert spaces; eigenvalues, eigenvectors, invariant subspaces, and projection operators; operational calculus of functions defined on the spectrum. Prerequisite: advanced calculus. (Spring)
- 216 **Banach Algebras and Spectral Theory of Operators** (3) Robinson
Gelfand theory of commutative Banach algebras; function algebras, Stone-Cech compactification; application to the spectral theory of operators, spectral theorem for bounded and unbounded operators. Prerequisite: knowledge of measure and integration, introduction to functional analysis, and Tychonoff and Stone-Weierstrass theorem. (Fall, odd years, when demand warrants)
- 217 **Introduction to Ordinary Differential Equations** (3) Glick
First course in ordinary differential equations; existence and uniqueness of solutions; continuity of solutions with respect to initial conditions; properties of linear systems. Prerequisite: advanced calculus. (Spring)
- 218 **Topics in Ordinary Differential Equations** (3) Staff
May be repeated for credit.
- 219 **Partial Differential Equations** (3) Liverman
Classical and modern techniques for the exact and approximate solution of PDEs. Separation of variables, Green's functions, variational methods, Hilbert space methods. Prerequisite: advanced calculus. (Spring)
- 220 **Topics in Partial Differential Equations** (3) Liverman
May be repeated for credit.
- 221 **Calculus of Variations** (3) Glick
Computer arithmetic and round-off errors. Solution of linear systems and nonlinear equations. Interpolation and approximations. Numerical differentiation and integration. Eigenvalues and eigenvectors. Prerequisite: Math 33 and computer programming. (Fall)
- 222 **Introduction to Numerical Analysis** (3) Gupta
Computer arithmetic and round-off errors. Solution of linear systems and nonlinear equations. Interpolation and approximations. Numerical differentiation and integration. Eigenvalues and eigenvectors. Prerequisite: Math 33 and computer programming. (Fall)
- 223 **Numerical Solution of Ordinary and Partial Differential Equations** (3) Gupta and Staff
Initial and boundary value problems for ordinary differential equations. Error propagation, convergence and stability. Finite difference and finite element methods for partial differential equations. Prerequisite: knowledge of differential equations and computer programming. (Spring)
- 224 **Generalized Functions and Integral Transforms** (3) Liverman
Laplace and Fourier transforms. Generalized functions. Green's functions. Applications to ordinary and partial differential equations. Prerequisite: Math 157 or equivalent.
- 230 **Topics in Analysis** (3) Staff
Possible topics include, but are not limited to, ergodic theory, dynamical systems, topological groups, topological vector spaces, generalized functions and distributions. May be repeated for credit.

- 231 Topics in Applied Mathematics (3)**
Possible topics include, but are not limited to, applications of functional analysis to nonlinear differential equations, calculus of variations, control theory, mathematical programming, applied mathematics for scientists and engineers. May be repeated for credit.
- 232 Topics in Numerical Analysis (3)**
Numerical methods and software. For science and engineering students. Introduction to the methods, tools, and ideas of numerical computation. Emphasis on problem solving using standard mathematical software, such as IMSL and LINPACK. Interpolation; linear, nonlinear, and differential equations. Prerequisite: matrix theory, differential equations, and FORTRAN programming. May be repeated for credit. (Spring) Gupta and Staff
- 241-42 Mathematical Foundations of Stochastic Processes (3-3)**
A mathematically rigorous study of conditional probability and expectation, martingales, stopping times, Brownian motion, and Markov processes. Prerequisite: Math 214 or the equivalent. Jungheim
- 261 Combinatorics (3)**
Partially ordered sets, constructive combinatorics, tableaux, partitions. Prerequisite: Math 113, undergraduate modern algebra and linear algebra, or permission of instructor. (Spring) Simon
- 262 Graph Theory (3)**
Graphical enumeration, factors, algebraic graph theory, extremal graph theory problems ranging from classical results to current research, applications. Prerequisite: Math 113, linear algebra, modern algebra, or permission of instructor. (Fall) Simon
- 263 Topics in Combinatorial Mathematics (3)**
May be repeated for credit.
- 271 Mathematical Logic (3)**
Model theory: the relation between a formal language (syntax) and its interpretations (semantics). Consistency, completeness, and compactness. Completeness of first-order predicate logic. Elements of recursion theory; decidability. Axiomatic theories. Formal number theory and its nonstandard models. Arithmetical relations. Tarski's theorem on the inexpressibility of truth. Church's undecidability theorem. Gödel's incompleteness theorem and its impact on mathematics and the philosophy of science. (Fall, even years) Harizanov
- 272 Topics in Logic (3)**
Topics selected from a broad spectrum of different areas of logic and applications based on students' suggestions and interests. May be repeated for credit. Harizanov
- 281-82 General Topology (3-3)**
General topological spaces, separation axioms, compactness, and connectedness. Metrization, uniform spaces, and complete spaces. (Math 281—fall) Kenyon and Staff
- 287 Differentiable Manifolds I (3)**
Differentiable manifolds, tangent vectors, submanifolds, imbeddings and immersions, vector fields and differential equations on manifolds, tensors and differential forms, Lie derivatives, orientability. (Fall, even years) Glick
- 288 Differentiable Manifolds II (3)**
Manifolds with boundary, integration on manifolds, Stokes's theorem and the divergence theorem, the Brouwer fixed-point theorem, deRham groups, Riemannian manifolds, geodesics, curvature. (Spring, odd years, when demand warrants) Glick
- 289 Topics in Topology (3)**
May be repeated for credit. Staff
- 295 Reading and Research (3)**
May be repeated for credit. Staff

Fourth Group

- 398 Advanced Reading and Research (arr.)**
Limited to students preparing for the Doctor of Philosophy general examination. May be repeated for credit. Staff

399 Dissertation Research (arr.)

Staff

Limited to Doctor of Philosophy candidates. May be repeated for credit.

MICROBIOLOGY—GRADUATE PROGRAMS

Professors L.F. Affronti (Chair), M. Reich, P.D. Kind, J.W. Albright, D.T. Kingsbury
Associate Professor G.V. Stokes

Master of Science in the field of microbiology—Prerequisite: a bachelor's degree with a major in biological or physical sciences from this University, or an equivalent degree. The undergraduate program must have included the following courses or equivalent: BiSc 11-12; Chem 11-12, 151-52, 153-54; Math 30, 31 (31 may be taken concurrently with the graduate program); Phys 1, 2.

Required: the general requirements stated under the Graduate School of Arts and Sciences. A total of 30 semester hours is required, 24 hours of course work and 6 hours of thesis (Micr 299-300). The course work must include Bioc 221-22 and Micr 277-78. The remaining academic work should consist of graduate-level courses selected with the approval of the department.

Master of Science in the field of clinical microbiology (supervisory track)—A program offered jointly by the Microbiology and Pathology Departments. Prerequisite: a bachelor's degree in medical technology or in biological or physical science and a minimum of three years of experience, within the last five years, in a clinical laboratory.

Required: the general requirements stated under the Graduate School of Arts and Sciences. This is a nonthesis program requiring a total of 36 semester hours, including Bioc 221-22; Micr 225-226; Path 230, 231, 232; Micr or Path 294; and Stat 127. The remaining academic work should consist of graduate-level courses selected with the approval of the Microbiology and Pathology Departments.

Doctor of Philosophy in the field of microbiology—Required: the general requirements stated under the Graduate School of Arts and Sciences. The General Examination covers at least four fields, two of which must be in microbiological disciplines.

Research fields: immunology, pathogenic microbiology (including subdisciplines of bacteriology, parasitology, and mycology), and molecular and cellular biology (including virology, microbial physiology, and genetics).

215 Parasitology (2)

Turner*

Study of host-parasite relationships. Clinical recognition of important parasites in medicine. (Fall)

225 Microbial Physiology I (3)

Reich, De Giovanni-Donnelly

Microbial structure, nutrition, transport, growth, genetics, metabolism, and regulatory mechanisms. Prerequisite: Bioc 221-22. (Fall)

226 Microbial Physiology II (3)

Reich, De Giovanni-Donnelly

The actions of antimicrobial agents and antibiotics on the structure and biochemistry of microorganisms at the cellular and molecular level. Prerequisite: Micr 225 or permission of instructor. (Spring)

229 Immunology (3)

Kind, Affronti

Lecture course. Fundamental immunologic concepts. Antigens, antibodies, antigen and antibody reactions in vitro and in vivo, and the immune response. Prerequisite: Bioc 221-22. (Fall)

231 Immunobiology (1)

Affronti, Kind

Study of immunological functions of reticulo-endothelial tissues, theories of autoimmunity, graft rejection, tumor immunity, delayed hypersensitivities, and immunogenetics. Clinical faculty discuss relevant aspects of immunobiology. For medical students; open to graduate students. Prerequisite: Micr 201+ or 229, and permission of instructor. (Fall)

* Virginia M. Turner is Adjunct Assistant Professor of Parasitology in Microbiology in the GW School of Medicine and Health Sciences.

† For description of Micr 201 see the *School of Medicine and Health Sciences Bulletin*.

- 233 **Virology** (3)
Biochemical, genetic, and pathogenic characterization of viruses. Prerequisite: Bioc 221-22 or permission of instructor. (Fall) Stokes
- 234 **Virology Laboratory** (2)
Laboratory complement to Micr 233. Prerequisite or concurrent registration: Micr 233. Laboratory fee, \$20. (Fall) Stokes
- 241 **Survey of Molecular Biology Techniques** (3)
Laboratory course in the basic techniques of molecular biology as they apply to analysis and manipulation of proteins and nucleic acids. (Spring) Bockman*
- 252 **Medical Parasitology** (1)
Lecture and laboratory course. The life cycles, epidemiology, clinical manifestations, pathology, diagnosis, treatment, and prevention of medically important protozoan and helminthic infections. In the laboratory, emphasis is placed on the recognition and identification of the etiologic agents causing disease through the study of living and preserved specimens. For medical students; open to graduate students. (Fall) Turner
- 255 **Clinical Virology** (1)
General principles of virology; emphasis on clinical situations. For medical students; open to graduate students. Prerequisite: Micr 201 or equivalent. (Fall) Staff
- 258 **Microbial Genetics** (2)
Survey of microbial systems that depict basic concepts of genetic principles. (Spring) De Giovanni-Donnelly
- 260 **Cellular Immunology** (1)
Advanced seminars in cellular aspects of the immune response. Content differs each time course is offered. May be repeated for credit. Prerequisite: Micr 229. (Spring) Kind
- 277-78 **Seminar: Microbiology** (1-1)
Required of graduate students. (Academic year) Staff
- 293 **Special Topics in Microbiology** (arr.)
Selected topics in microbiology. May be repeated for credit. (Fall and spring) Staff
- 294 **Research in Clinical Microbiology** (3)
Development and/or evaluation of techniques, procedures, or instrumentation related to clinical microbiology. Limited to students in the master's program in clinical microbiology. Offered jointly by the Microbiology and Pathology Departments. Staff
- 295 **Research in Microbiology** (arr.)
Content differs each time the course is offered; may be repeated for credit. (Fall and spring) Staff
- 299-300 **Thesis Research** (3-3)
(Fall and spring) Staff
- 398 **Advanced Reading and Research** (arr.)
Limited to students preparing for the Doctor of Philosophy general examination. May be repeated for credit. (Fall and spring) Staff
- 399 **Dissertation Research** (arr.)
Limited to Doctor of Philosophy candidates. May be repeated for credit. (Fall and spring) Staff

MIDDLE EASTERN STUDIES

Program Committee: N. Brown (Director), M.A. Atkin, R.K. Lewis, W.H. Lewis, B. Reich, H.M. Sachar

The Elliott School of International Affairs offers a multidisciplinary program leading to a Bachelor of Arts with a major in the field of Middle Eastern Studies.

* Jeffrey Michael Bockman is Assistant Research Professor of Microbiology in the GW School of Medicine and Health Sciences.

Bachelor of Arts with a major in Middle Eastern studies—The following requirements must be fulfilled:

1. General requirements—6 semester hours of English, 6 hours of mathematics or physical science, 6 hours of humanities, and course work in a foreign language through the third-year level. Students are encouraged to study a Middle Eastern language. Hebrew is offered regularly at GW; other Middle Eastern languages may be taken through the Consortium.
2. Social sciences—(a) Hist 40 and 72; (b) Econ 11–12 and 6 semester hours selected from 136, 151, 181, and 182; (c) PSc 1 and 2.
3. Middle Eastern studies—(a) 9 semester hours selected from Hist 107, 108, 118, 120, 193, and 194; (b) 9 hours selected from PSc 176, 177, 178, 179, and 180; (c) 6 hours selected from Rel 113, 114, 161, 163, and 165; (d) 9 additional hours of course work related to the Middle East selected from any department.
4. Electives: Students must take sufficient electives to complete the program with 120 semester hours.

The following courses pertain to Middle Eastern Studies.

Anth 177	Cultures of the Near East
Art 112	Egypt and the Near East
Art 116	Islamic Art
Clas 21–22	Beginning Hebrew
Clas 23–24	Intermediate Hebrew
Clas 100	Modern Hebrew Literary Classics
Clas 101	Israeli Society and Culture: Literary Perspectives
Clas 102	Contemporary Israeli Short Stories and Poetry
Clas 103	Modern Hebrew Nonfiction
Clas 104	Modern Hebrew Fiction
Econ 151	Economic Development
Geog 154	Man and Land in the Middle East and North Africa
Hist 107	The Ancient Near East and Egypt to 322 B.C.
Hist 108	Greece and the Near East, 359 B.C. to the Second Century A.D.
Hist 117	Crisis or Conspiracy? A History of the International Politics of Oil
Hist 193	History of the Near East
Hist 194	History of the Modern Near East
Hist 292	Israel, Zionism, and the Arab World
Hist 294	Research Seminar: The Modern Near East
PSc 176	The Arab–Israeli Conflict
PSc 177	Government and Politics of the Middle East
PSc 178	International Relations of the Middle East
PSc 179	Israeli Politics and Foreign Policy
PSc 180	Government and Politics of North Africa
PSc 276	The Arab–Israeli Conflict
PSc 277	Government and Politics of the Middle East
PSc 278	International Relations of the Middle East
PSc 279	The Powers in the Middle East
PSc 280	Government and Politics of North Africa
Rel 9	The Hebrew Scriptures
Rel 103	The Prophets
Rel 113	Early Post-Biblical Judaism
Rel 114	Judaism in the Rabbinic Period
Rel 161	Islam
Rel 163	Islamic Religion and Art (same as Art 119)
Rel 164	Islamic Philosophy and Theology
Rel 165	Sufism (Islamic Mysticism)
Rel 260	Seminar: Topics in Islamic Studies
Rel 261	Seminar: Topics in Islamic Thought

MUSEUM STUDIES—GRADUATE PROGRAM

Committee on Museum Studies

M.C. Malaro (*Director*), A.D. Andrews, R.L. Humphrey, C.R. Rose, J. Vlach

The Graduate School of Arts and Sciences offers an interdepartmental program leading to the degree of Master of Arts in the field of museum studies. The program is designed for those who seek a deepening of their primary academic interest along with training in the broad range of talents required in the successful operation of museums. The goal of the program is to produce graduates who are prepared to assume museum positions that require both scholarship and functional skills. (Students whose career interests are primarily curatorial should consider applying for the Master of Arts in their academic discipline with a concentration in museum training; those interested in museum education should refer to the Master of Arts in Teaching under the School of Education and Human Development.)

Students applying for candidacy in the Museum Studies Program must meet all general requirements for admission to the Graduate School of Arts and Sciences. The student must have an undergraduate major, or its equivalent, relevant to the proposed academic core and at least 9 credit hours in a museum-related field other than the undergraduate major or must show equivalent preparation.

Courses relating to museum studies are offered by other departments of the University, such as Anthropology, American Studies, Art, and Education. With the approval of their advisor, students may draw on these courses in formulating their programs.

The Committee on Museum Studies serves the Museum Studies Program in an advisory capacity. Its members are drawn from several departments of the University and from the Smithsonian Institution.

Master of Arts in the field of museum studies—Required: the general requirements stated under the Graduate School of Arts and Sciences. The degree requires a minimum of 42 hours of course work. At least 15 hours of course work must be in an academic core discipline, for example, American studies, anthropology, biological sciences, geology and paleobiology, history, or an appropriate interdisciplinary combination. At least 15 hours of course work must be in museum studies, which may include museum administration, collections management, exhibiting, and object care and conservation. At least 6 hours must be in a museum internship in the Washington area or elsewhere. The student must pass a comprehensive examination based on course work and submit a research paper.

201 Introduction to Museum Studies:

History and Philosophy of Museums (3)

Museums viewed from historical, philosophical, and practical perspectives. Examination and comparison of types of collecting organizations. Analysis of contemporary studies on the status of museums and their public programs. (Fall)

P. Spiess

202 Introduction to Museum Studies: Administration (3)

Overall operation of the museum: legal status of the museum and its obligations to the public; governance, staffing, policy-making, financial planning. Theory applied to practical situations. (Spring)

Malaro

203 Fiscal Management of Nonprofit Organizations (3)

Basic concepts of general accounting; fund accounting for nonprofit organizations; appropriation and encumbrance accounting; budgets and budget systems; use of the budget as a management tool. (Spring)

Segel

215 Collections Management: Legal and Ethical Issues (3)

Establishing collections policies; laws, regulations, conventions, and codes that affect acquisitions, deaccessions, loans, and collection care; accountability; access problems. (Fall)

Malaro

216 Collections Management: Practical Applications (3)

The implementation of collections policies: cataloging, documentation, records maintenance, object preservation, storage techniques, handling and shipping, inventory control, data systems. (Spring)

K. Spiess

- 270 **Curatorial Research and Exhibition Development** (3) Crouch
Museum research from a curatorial point of view, with emphasis on exhibit conceptualization and development. Research techniques, information sources, script production. (Fall)
- 271 **Seminar: Museum Exhibiting** (3) Sims
The collaboration between curator and designer. The designer's task as visualizer. Project management of both simple and complex exhibits in various disciplines. Installation techniques. Hypothetical projects developed by student teams. (Spring)
- 291 **Museum Internship** (1 to 6) Malero
Individual work experience in museums of the Washington area and possibly elsewhere. Each student should make arrangements with the Director of the Museum Studies Program. Museum internships are supervised by one or more members of the cooperating museum staff in the areas of museum management, object care and conservation, exhibiting. (Fall, spring, and summer)
- 295 **Directed Research** (3) Staff
Individual research on special topics in the museum field. Topics must be approved by the Director of the Museum Studies Program. May be repeated for credit. (Fall, spring, and summer)
- 297 **Special Topics in the Museum Field** (3) Staff
May be repeated for credit provided the topic differs. (Fall, spring, and summer)

Related courses offered by other departments:

- AmCv 251 Museum Research and Education
AmCv/Anth 294 Field and Laboratory Research in Archaeology
Anth 264 Seminar: Anthropological Museum Techniques
Art 209-10 Exhibition and Display Design
Art/Anth 292 Introduction to Conservation
Art/Anth 293 Preventive Conservation Techniques
Art/Anth 212 Advanced Conservation Techniques
Educ 223 Museum Audiences
Educ 227 Museum Evaluation
Educ 240 Proposal Writing
Educ/AmCv 286 Interpretation in the Historic House Museum
TrDa 231 Lighting Design
TrDa 234 Advanced Scene Design
TrDa 235 Special Projects in Scene Design

MUSIC

- Professors G. Steiner (Emeritus), R. Parris
Adjunct Professor J.C. Fiorito (Voice)
Associate Professors N.A. Tilkens, R.J. Guenther (Chair)
Adjunct Associate Professor M. Garst (Piano)
Assistant Professors C.J. Pickar, L. Youens
Adjunct Assistant Professors J.E. White (Voice), S.K. Kim (Piano), J. Albertson (Guitar), F.B. Conlon (Piano), M. Sislen (Guitar), A. Lee (Voice), J.D. Levy (Jazz Improvisation)
Assistant Professorial Lecturers B. Feinstein, C.M. Dunham, A. Wittrup, P.M. Jones
Studio Instructors M. Findley (Violin), K. Fleming (Cello), P. Gieseler (Voice), E. Guenther (Organ), N.M. Irvine (Bass), S.E. King (Recorder), L. Lipnick (Bassoon), W.H. Mann (Flute), R.J. Pallansch (Tuba), R. Parnas (Violin and Viola), B.R. Seidman (Harp), S. Wellman (Voice), R. White (Oboe), W.R. Wright (Clarinet and Saxophone), W.A. Baughman (Trumpet), P. Edgar (Percussion), S.M. Fearing (French Horn), E.C. Thayer (French Horn), E.U. Kiehl (Trombone), D. Marsh (Electric Bass), M. Von Villas (Opera), J.C. Connell (Percussion), T. Perazzoli (Flute), J. Krash (Piano), T. Konstantinov (Piano), G. Kreplin (Guitar), M. Peris (Piano), L. Hertel (Flute), A. Robbins (Viola da gamba)

Bachelor of Arts with a major in music (departmental)—The following requirements must be fulfilled:

1. The general requirements stated under Columbian College of Arts and Sciences.
2. Prerequisite courses—Mus 1-2, 5-6; 6 hours of applied music courses in the student's principal performance area.
3. The language competence option listed under General Curriculum Requirements, Columbian College of Arts and Sciences.
4. Required courses in the major—Mus 101-2, 103-4, 131-32, 138, 151; 6 additional hours of applied music courses; a minimum of 4 hours of music ensemble courses. Mus majors must meet the departmental requirement for proficiency in piano. All majors are expected to attend and perform regularly in student recitals in accordance with minimum departmental requirements.

Bachelor of Music—Admission to the Bachelor of Music degree program requires demonstration of special advanced pre-admission training and aptitude. In addition to the general requirements stated under Columbian College of Arts and Sciences, the 129-credit hour program requires music courses as follows: Mus 1-2, 5-6, 101-2, 103-4, 131-32, 138-39, 151, 199; 6 hours of ensemble courses; 12 hours of applied music courses; 15 hours of additional courses in the area of concentration (theory or performance); and 5 hours of electives. The departmental requirement of proficiency in piano must be satisfied by the end of the junior year. Students in this program are required to pursue the language competence option listed under General Curriculum Requirements, Columbian College of Arts and Sciences.

Minor in Music—20 semester hours of music courses, consisting of Mus 1-2 or 5-6, two music history courses (Mus 101-2 or 103-4), 4 semester hours of piano study, and 4 semester hours of ensemble participation. Students with sufficient piano proficiency, as determined by an audition, may elect another applied music area for concentration. Recital attendance and public performance are required.

Master of Arts in the field of music—Prerequisite: a bachelor's degree with a major in music or an equivalent degree; satisfactory demonstration of ability in one medium of performance; demonstration of piano proficiency as required for the Department's bachelor's degrees; completion of the Department's theory placement examination. Applicants from other institutions must present scores on the Music Subject Test of the Graduate Record Examination.

Required: the general requirements stated under the Graduate School of Arts and Sciences. The program of study consists of 36 semester hours of course work, including a thesis (6 semester hours). This program includes a required core of courses from theory, history, and performance as well as electives that may include up to two approved courses outside the department. A student in this program must demonstrate, by formal examination, a reading knowledge of either French or German before beginning the third semester of study.

Master of Music in the field of performance (piano or voice)—Prerequisite: a bachelor's degree with a major in music or an equivalent degree; an audition before a faculty committee. Applicants from other institutions must present scores on the Music Subject Test of the Graduate Record Examination.

Required: the general requirements stated under the Graduate School of Arts and Sciences. The program of study includes 30 semester hours distributed as follows: (a) 12 semester hours of performance study in the area of concentration (piano or voice); (b) 12 semester hours of music theory and music history and literature courses; and (c) a thesis (6 semester hours). The thesis consists of a public recital and performance before a designated committee (such a recital and performance must be representative of an extensive and well-rounded repertory, performed on a professionally accepted artistic level); delivery of a historical and analytical lecture on the musical content of the recital program, also before a designated committee; a written report on some approved theoretical area related to the student's concentration; and demonstrated leadership in an ensemble performance (opera or oratorio for voice).

Departmental Prerequisites: Mus 1-2 is prerequisite to all other courses required of music majors with the exception of applied music and ensemble courses. All students majoring in music are required to emphasize performance study in one instrument or voice. Placement auditions to determine the beginning level of study are administered at the time the major is declared. Satisfactory progress in the principal performance area, as determined by the department's repertoire and study-level guidelines and regular applied music jury examinations, is required for continuance in the major. Attendance at a minimum number of public concerts and recitals is required of all music majors as a part of their applied music study.

MUSIC THEORY, HISTORY, AND LITERATURE

First Group

- 1-2 **Elements of Music Theory (4-4)** Pickar, Wittrup
Notation, scales, keys, intervals, terms, rhythms, and chord structure and progression, both written and at the piano keyboard. Aural skills development through melodic, harmonic, and rhythmic dictation and sight singing. Introduction to music literature, with emphasis on rudimentary aural analysis. Two 50-minute lab sessions per week. Mus 1 is prerequisite to Mus 2. (Academic year)
- 3 **Introduction to Musical Understanding (3)** Staff
Introductory history of musical styles, related to listening; study of music materials and media. Not open to music majors. (Fall and spring)
- 4 **Survey of Music Literature (3)** Staff
Introductory study of musical forms, structures, and textures; aural analysis of selected literature. Not open to music majors. (Spring)
- 5-6 **Harmony (4-4)** Parris, Wittrup
Triads, inversions; chord analysis, construction, and progression; figured-bass realization, part writing, modulation, altered chords. Prerequisite: Mus 1-2; Mus 5 is prerequisite to Mus 6. (Academic year)
- 7 **Music of Non-Western Cultures (3)** Staff
Introductory survey of the basic systems and styles of music in the major cultures of the Eastern Hemisphere and Africa. (Spring)
- 8 **History of Jazz (3)** Dunham
Introduction to the styles, composers, and performers of jazz music from its origins to the present. (Fall)

Second Group

- 101-2 **History of Music I (3-3)** Youens
Development of music in the Western world from the early Christian era through the Baroque. Mus 101 is prerequisite to Mus 102. (Academic year)
- 103-4 **History of Music II (3-3)** Tilkens
Development of Western music from the Classical period to the present. Mus 103 is prerequisite to Mus 104. (Academic year)
- 105 **Computers and Music (3)** Conrad
Theory and practical computer applications in sound synthesis (both analog and FM digital), MIDI controlling and communication, digital sampling and recording, and manuscript preparation and editing. Music-reading ability is assumed; extensive computer experience and knowledge of electronic music are not required. Prerequisite: Mus 1 or permission of instructor.
- 109 **Orchestra Literature (3)** Staff
Survey of the history and styles of orchestra literature, analysis of representative works.
- 110 **Chamber Music Literature (3)** Staff
Survey of the history and styles of chamber music literature, analysis of representative works.

- 121 **The Opera** (3)
Survey of the history and styles of opera, analysis of representative works. (Fall)
- 125 **Keyboard Music Literature** (3)
Survey of the history, style, and major content of the keyboard literature from the 16th century to the present.
- 131-32 **Advanced Theory** (3-3)
Practice in 18th-century contrapuntal writing and analysis, chorale prelude inventions, and fugues. Prerequisite: Mus 5-6 or equivalent. (Academic year)
- 133-34 **Composition** (3-3)
(Academic year)
- 135 **Counterpoint** (3)
Study and practice of 16th-century contrapuntal techniques. (Fall)
- 137 **Orchestration** (3)
Instrumental scoring. (Spring)
- 138-39 **Form and Analysis** (3-3)
Analysis of musical forms in representative musical literature. (Academic year)
- 151 **Conducting** (3)
Technique of conducting, score reading, rehearsal procedures, analysis, and interpretation of selected musical literature; practice in conducting. (Fall-odd years)
- 160-61 **Electronic Music** (3-3)
Tape and electronic techniques, synthesizer use, and acoustical principles. (Academic year)
- 173 **Pedagogy** (3)
Principles, materials, and methods of teaching in selected areas.
- 175 **Performance Practices in Selected Areas** (3)
An investigation of the problems of accurate interpretation of music of selected periods through the use of historical and modern literature and its application to the actual music. Topic to be announced in the *Schedule of Classes*. (Fall-odd years)
- 199 **Independent Research** (3)
Under the guidance of an assigned instructor. Open only to qualified music majors. May be repeated for credit. (Fall and spring)

Third Group

- 203 **Bibliography and Research Methodology** (3)
(Fall)
- 205 **Music of the Baroque Period** (3)
Study of the musical styles, techniques, and literature from 1600 to 1750.
- 206 **Music of the Classical Period** (3)
Study of styles, techniques, and literature from the 18th-century schools through Haydn, Mozart, and Beethoven. (Fall)
- 207 **Music of the Romantic Period** (3)
Study of the musical styles, backgrounds, and literature from Schubert through the 19th century.
- 208 **Music of the 20th Century** (3)
The principal schools, techniques, developments, and trends of the 20th century. (Fall)
- 221-22 **Diction for Singers** (3-3)
Pronunciation and rules of diction for the singing of Italian, French, German, and Church Latin, making use of the International Phonetic Alphabet. (Alternate academic years)
- 231-32 **Composition** (3-3)
May be repeated for credit. (Academic year)
- 234 **Seminar: Performance Practices in Selected Areas** (3)
(Spring)

237	Seminar: Analytical Studies in Music Theory (3)	Guenther
	(Fall): Beethoven Quartets	
238	Seminar: Analytical Studies in Music History (3)	Staff
239	Independent Research (3)	Staff
251-52	Advanced Conducting (3-3)	Staff
	(Academic year)	
299-300	Thesis Research (3-3)	Staff
	(Fall and spring)	

APPLIED MUSIC

Applied music courses are offered both fall and spring, and may be repeated for credit. Mus 51, 52, 53, 54, 55, 56, and 153 do not include individual lessons and do not require a supplementary fee. All other applied music courses include individual lessons and require a supplementary fee, as follows:

1. One-semester-hour courses: individual lessons of one-half hour a week, supplementary fee, \$75.

2. Two- or three-semester-hour courses: individual lessons of one hour a week, supplementary fee, \$150.

Supplementary fees for applied music courses are nonrefundable after the first three weeks of the fall and spring semesters. Consult the Music Department for details.

The supplementary fee is waived for graduate degree candidates in music and full-time undergraduate music majors and minors.

First Group

Required practice: three hours a week for one-semester-hour courses and six hours a week for two-semester-hour courses.

11	Piano (1)	Staff
12	Piano (2)	
13	Voice (1)	Staff
14	Voice (2)	
15	Organ (1)	E. Guenther
16	Organ (2)	
17	Violin (1)	Staff
18	Violin (2)	
19	Classical Guitar (1)	Albertson, Sislen
20	Classical Guitar (2)	
21	Viola (1)	Parnas
22	Viola (2)	
23	Cello (1)	Fleming
24	Cello (2)	
25	Bass (1)	Irvine, Marsh
26	Bass (2)	
27	Flute (1)	Mann, Perazzoli
28	Flute (2)	
29	Recorder (1)	King
30	Recorder (2)	
31	Oboe (1)	R. White
32	Oboe (2)	
33	Clarinet (1)	Wright
34	Clarinet (2)	
35	Saxophone (1)	Wright
36	Saxophone (2)	
37	Bassoon (1)	Lipnick
38	Bassoon (2)	
39	French Horn (1)	Fearing, Thayer
40	French Horn (2)	
41	Trumpet (1)	Baughman

- 42 Trumpet (2)
 43 Trombone (1)
 44 Trombone (2)
 45 Percussion (1)
 46 Percussion (2)
 47 Harp (1)
 48 Harp (2)
 49 Tuba (1)
 50 Tuba (2)
 51 Orchestra (1)
 Preparation and performance of orchestral literature. Prerequisite: audition before director.
 52 Instrumental Ensemble (1)
 Chamber ensemble groups approved by audition.
 53 University Singers (1)
 Preparation and performance of choral literature. Prerequisite: audition before director.
 54 Chamber Choir (1)
 Preparation and performance of chamber vocal literature. Prerequisite: audition before director and two semesters of Mus 53.
 55 Jazz Band (1)
 Preparation and performance of classic and contemporary "big band" literature. Prerequisite: audition before director.
 56 Pep Band (1)
 57 Harpsichord (1)
 58 Harpsichord (2)
 59 Jazz Performance Techniques (1)
 60 Jazz Performance Techniques (2)

Second Group

Departmental prerequisite: audition to meet departmental requirements.

Required practice: six hours a week for 1-semester-hour courses and 12 hours a week for 3-semester-hour courses. In addition, 3-semester-hour courses include master performance classes and require performance on student recitals.

- 111 Piano (1)
 112 Piano (3)
 113 Voice (1)
 114 Voice (3)
 115 Organ (1)
 116 Organ (3)
 117 Orchestral Instrument (1)
 118 Orchestral Instrument (3)
 119 Classical Guitar (1)
 120 Classical Guitar (3)
 153 Vocal Theater Workshop (1)
 A performance-oriented program for singers of various vocal abilities. May be repeated for credit. In the fall semester the stress will be on development of body awareness for the stage, acting improvisations, and character development. Scenes will be chosen (with the approval of the voice faculty) from the opera, operetta, and musical theater repertoire. In the spring semester, musical coaching, use of makeup, and audition preparation will be included.
 155 Voice Study for the Theatre (1)
 156 Voice Study for the Theatre (3)
 157 Harpsichord (1)
 158 Harpsichord (3)

Third Group

All courses include supervised ensemble preparation and required concert solo performances.

211 Piano (3)

213 Voice (3)

215 Organ (3)

217 Orchestral Instrument (3)

NAVAL SCIENCE

Professor O.C. Martin (Chair)

Associate Professor D.M. Hirabayashi

Assistant Professors G. Johnson, J.J. Jackson, F.D. Forney, M.P. Ralph, F.S. Turek

Naval Reserve Officers Training Corps Program

The Naval Reserve Officers Training Corps (NROTC) offers young men and women the opportunity to qualify for a full scholarship and a commission in the Navy or Marine Corps. NROTC midshipmen are required to complete the naval science courses and attend weekly professional seminars. During the summer, NROTC midshipmen participate in active duty at sea or on shore-based training cruises for approximately four weeks. Upon receiving the baccalaureate and completing the NROTC program, qualified midshipmen are commissioned as ensigns in the Navy or second lieutenants in the Marine Corps. Students may join the NROTC through any one of the following four programs.

Four-Year Scholarship Program—Students enter the NROTC Four-Year Scholarship Program through national competition and are appointed midshipmen in the Naval Reserve. While enrolled, the government provides tuition, fees, books, uniforms, and an allowance of \$100 per month. Upon graduation, students are commissioned with an eight-year active/reserve service obligation that consists of at least four years of active duty. Scholarship Program students must include courses in English, calculus, computer science, physics, national security policy, a foreign language, technical electives, and naval science in their degree program and participate in three summer training periods of approximately four weeks each.

Two-Year Scholarship Program—Selection for this program is made through national competition, based on the student's academic record, physical qualifications, and an interview. Application should be made by the start of the fall semester of the student's sophomore year. Selected applicants attend six weeks of instruction at the Naval Science Institute (NSI) at Newport, Rhode Island, during the summer before their third academic year. At NSI, students take courses in naval science, physical fitness, and drill, similar to those required of four-year NROTC students during their freshman and sophomore years. Successful completion of the NSI qualifies the two-year applicants for appointment as midshipmen in the Naval Reserve and enrollment in the NROTC Scholarship Program. Upon acceptance of this appointment, students receive all the benefits and assume all the obligations of midshipmen in the Four-Year Scholarship Program.

Entering freshmen and transfer students who are awarded NROTC scholarships and plan to live on campus may also be eligible for GW Residence Hall Awards from the University. NROTC scholars with prior experience in the Navy are eligible for awards covering the average charges for on-campus housing and meals. NROTC scholars who are new to the Navy and are majoring in mathematics, chemistry, physics, or a program in the School of Engineering and Applied Science may receive \$4,000 to be applied toward the costs of on-campus housing and meals. Further information on these awards is available from the University Office of Admissions.

Four-Year College Program—Students are enrolled in the Four-Year College Program upon acceptance by the Department of Naval Science. Uniforms are provided, and during their junior and senior years, students receive \$100 per month. Students must include courses in mathematics, science, and naval science in their degree program, attend the first class summer at-sea training period, accept a commission in the Naval Reserve or Marine

Corps Reserve on graduation with an eight-year active/reserve service obligation, and serve on active duty after graduation for at least three years. After commissioning, application for transfer to the regular Navy or Marine Corps may be made. Midshipmen who complete one term as College Program students, have a satisfactory academic record, and are physically qualified may compete for a scholarship awarded by the Chief of Naval Education and Training. College Program students who demonstrate academic excellence may be nominated for NROTC Scholarships by the Professor of Naval Science. If awarded, the scholarship will be for the remainder of the student's undergraduate enrollment, up to a maximum of three and a half years; service requirements and benefits are the same as for the scholarship programs.

Two-Year College Program—Application should be made by the start of the spring semester of the student's second year. Selections are made through the Chief of Naval Education and Training, based on the student's academic record, physical qualifications, and an interview. Those students selected will attend the NSI and upon successful completion may enroll in the program. The benefits and obligations are the same as for the Four-Year College Program.

Requirements for all candidates—Qualifications for acceptable candidates for the Scholarship Program or the College Program include U.S. citizenship, fulfillment of physical requirements, and willingness to participate in required summer training periods and to accept a commission in the Navy, Marine Corps, Naval Reserve, or Marine Corps Reserve when offered.

Enrollment in NROTC is not a requirement for taking naval science courses. Any student enrolled at George Washington University may take naval science courses with the approval of the Professor of Naval Science.

Degree Credit for Naval Science Courses

Columbian College—NSc 126, 160, and 180 are acceptable as history electives. Up to 12 credit hours (for NSc 52, 150, 175, and 176) may be accepted as professional electives in the Columbian College.

School of Education and Human Development—NSc 126, 160, 175, 176, and 180 may be accepted for social science elective credit in the following undergraduate programs: elementary education, human services, and special education. All naval science courses are acceptable as elective credit in the travel and tourism and exercise and sport science programs.

School of Government and Business Administration—NSc 175 and 176 may be used as equivalents for BAd 191 and 110, respectively, by students in both the B.B.A. and B.A. degree programs. For B.B.A. students, any other naval science courses may be used to fulfill science, social science, or elective requirements. For B.Acct. students, any one of the remaining naval science courses may be used to fill an elective requirement.

Elliott School of International Affairs—NSc 126, 160, and 180 may be used as elective credit in all undergraduate programs.

51 Introduction to Naval Science (3)

A general introduction to the naval profession and to concepts of sea power. The mission, organization, and warfare components of the U.S. Navy and Marine Corps. Overview of officer and enlisted ranks and rates, training and education, and career patterns. Naval courtesy and customs, military justice, leadership, and nomenclature. Professional competencies required to become a naval officer.

52 Naval Ships Systems I (Engineering) (3)

A detailed study of ship characteristics and types, including ship design and control, propulsion, hydrodynamic forces, stability, compartmentation, electrical and auxiliary systems, interior communication, and damage control. Included are basic concepts of the theory and design of steam, gas turbine, and nuclear propulsion. Shipboard safety and firefighting.

125 Naval Ships Systems II (Weapons) (3)

Theory and employment of weapons systems, including the processes of detection, evaluation, threat analysis, weapon selection, delivery, guidance, and explosives. Fire control systems and major weapons types, including capabilities.

- and limitations. Physical aspects of radar and underwater sound. Facets of command, control, and communications as means of weapons system integration.
- 126 **Sea Power and Maritime Affairs** (3)
A survey of the U.S. naval history, from the American Revolution to the present, with emphasis on major developments. The geopolitical theory of Mahan. Present-day concerns in sea power and maritime affairs, including the economic and political issues of merchant marine commerce, the law of the sea, the Russian navy and merchant marine, and a comparison of U.S. and Soviet naval strategies.
- 150 **Navigation and Naval Operations I** (3)
An in-depth study of piloting and celestial navigation, including theory, principles, and procedures. Students develop practical skills in both piloting and celestial navigation. The use of charts, visual and electronic aids, and the theory and operation of magnetic and gyro compasses. The celestial coordinate system; spherical trigonometry, theory and operation of the sextant, and a step-by-step treatment of the sight-reduction process. Other topics include tides, currents, effects of wind and weather, plotting, use of navigation instruments, types and characteristics of electronic navigation systems, and a day's work in navigation.
- 151 **Navigation and Naval Operations II** (3)
A study of the international and inland rules of the nautical road, relative-motion vector-analysis theory, relative motion problems, formation tactics, and ship employment. Introduction to naval operations and operations analysis, ship behavior and characteristics in maneuvering, applied aspects of ship handling, and afloat communications.
- 160 **Evolution of Warfare** (3)
This course traces the development of warfare, from earliest recorded history to the present, with focus on the impact of major military theorists, strategists, tacticians, and technological developments. The student acquires a basic sense of strategy and develops an understanding of military alternatives and the impact of historical precedent on military thought and actions.
- 175 **Leadership and Management I** (3)
A comprehensive study of organizational behavior and management in the context of naval organization. Survey of the management functions of planning, organizing, and controlling. Introduction to individual and group behavior in organizations and extensive study of motivation and leadership. Major behavioral theories. Practical applications are explored by the use of experiential exercises, case studies, and laboratory discussions. Other topics include decision making, communication, responsibility, authority, and accountability.
- 176 **Leadership and Management II** (3)
A survey of the interaction of leadership, organizational behavior, and human resource management. Employee interviewing and counseling, performance appraisals, business correspondence, military and civilian law, and managerial ethics and values. This capstone course in the naval science curriculum builds on and integrates professional competencies to develop a thorough understanding of the problems and issues faced by leaders, managers, and naval officers.
- 180 **Amphibious Warfare** (3)
A historical survey of the development of amphibious doctrine and the conduct of amphibious operations. The evolution of amphibious warfare in the 20th century, especially during World War II. Present-day potential and limitations on amphibious operations, including the concept of rapid deployment force.

PATHOLOGY—GRADUATE PROGRAMS

Professors H. Sidransky (Chair), B.C. Zook, J.M. Orenstein, D.S. Wilkinson
Associate Professors S.G. Kent, C.T. Garrett, S. Silver, G.A. Clawson, A.M. Schwartz

Programs of study leading to the degree of Associate in Science (Medical Laboratory Technique) and Bachelor of Science (Medical Technology) are described in the School of Medicine and Health Sciences Bulletin.

Master of Science in the field of clinical microbiology (supervisory track)—A program offered jointly by the Microbiology and Pathology Departments. Prerequisite: a bachelor's degree in medical technology or in biological or physical science and a minimum of three years of experience, within the last five years, in a clinical laboratory.

Required: the general requirements stated under the Graduate School of Arts and Sciences. This is a nonthesis program requiring a total of 36 semester hours, including Biol 221–222; Micr 225–226; Path 230, 231, 232; Micr or Path 294; and Stat 127. The remaining academic work should consist of graduate-level courses selected with the approval of the Microbiology and Pathology Departments.

Doctor of Philosophy in the field of pathology—Prerequisite: one of the following degrees from a recognized professional school: Doctor of Medicine (M.D.), Doctor of Veterinary Medicine (D.V.M.), or Doctor of Dentistry (D.D.S.). In exceptional cases, applicants with other backgrounds in the life sciences may be accepted. Qualifying scores on the Aptitude Test (Verbal, Quantitative, and Analytical) of the Graduate Record Examination are required. Some students may be required to take the Biology (Advanced Specific Field) examination as well.

Required: the general requirements stated under the Graduate School of Arts and Sciences, including 48 semester hours of approved graduate course work. One year of experience in pathology at the University Hospital, equivalent to Path 283, may be counted for a maximum of 24 semester hours of graduate course work. Other experience must satisfy the eligibility requirements of the appropriate national certifying body, i.e., the American Board of Pathology in the case of the M.D., the American College of Veterinary Pathologists in the case of the D.V.M., and the American Board of Oral Pathology in the case of the D.D.S.

Research fields: comparative pathology, human pathology, veterinary pathology, biochemical pathology, cardiovascular pathology, and nutritional deficiency pathology.

203–4 Pathology (4–4)

General introduction to concepts of disease. Pathology of organ systems; correlation with symptoms and physical signs. Gross and microscopic study of diseased tissues. Case studies. Limited enrollment. Prerequisite to Path 203: Anat 203. (Academic year)

230 Pathology and Pathophysiology of Infections (3)

An interdepartmental course dealing with the pathophysiology of human response to injury, with emphasis on, but not restricted to, infectious agents. (Fall)

231 Laboratory Supervisory Clerkship (1)

Students will rotate through selected clinical microbiology laboratories (hospital, public health, and commercial) to observe the techniques of supervision employed in each setting. Hospital laboratories will range from small community facilities to large medical center facilities. Generally, students will spend a maximum of one week in each laboratory. The type of clerkship a student is required to fulfill will be determined individually, based on past experience. (Fall, spring, and summer)

232 Laboratory Management Seminar (1)

Management techniques related to the clinical microbiology laboratory environment. Open only to degree candidates in the clinical microbiology program. (Fall and spring)

256 Pathology of Infectious Diseases (3)

Correlation of clinical, physiologic, immunologic, and pathologic mechanisms determining the course and morphological changes that occur in infections. Analysis of cases and review of assigned readings. Prerequisite: Micr 211 and Path 203.

* Andreas Andrew Abraham is Associate Professor of Pathology at the GW School of Medicine and Health Sciences.

- 257 **Transmission Electron Microscopy in Pathologic Diagnosis** (3) Orenstein, Abraham
Techniques for the examination and interpretation of ultrastructural changes associated with human disease states. Emphasis on transmission electron microscopy as a diagnostic tool. Prerequisite: Path 203, 204; Anat 260, 261.
- 258 **Organ System Pathology** (5) Staff
Gross and microscopic study of human pathologic material reflecting major diseases of specific organ systems. The organ systems studied will be rotated annually, depending on demand. Organ systems to be covered include cardiovascular, digestive, nervous, renal, reproductive, and respiratory. Prerequisite: Path 203, 204, and permission of instructor. (Fall and spring)
- 276 **Seminar in Experimental Pathology** (1) Staff
Presentations on current topics in experimental pathology. (Fall and spring)
- 283 **Anatomic Pathology Clerkship** (arr.) Staff
Necropsy and surgical pathology service. Prerequisite: Path 203-4 or equivalent. Five semester hours of credit for each four-week period. Students may receive up to 30 semester hours of credit for six months full-time. Open to limited number of graduate students, with permission.
- 286 **Perinatal Pathology** (arr.) Kent
Course will focus on the important disorders that may beset the human fetus and the newborn infant. Emphasis on the role of placental abnormalities. Prerequisite: Path 203, 204, and permission of instructor. (Spring)
- 294 **Research in Clinical Microbiology** (3) Silver
Development and/or evaluation of techniques, procedures, or instrumentation related to clinical microbiology. Limited to students in the master's program in clinical microbiology. Offered jointly by the Microbiology and Pathology Departments. (Fall, spring, and summer)
- 295 **Comparative Pathology** (arr.) Zook, Montali*
Participation in veterinary pathology service, including studies of domestic, wild, and laboratory animals. Review of training materials and participation in training sessions. Graduate students receive 5 semester hours of credit for each four-week full-time period. Prerequisite: Path 203-4.
- 299-300 **Thesis Research** (3-3) Staff
(Fall and spring)
- 398 **Advanced Reading and Research** (arr.) Staff
Limited to students preparing for the Doctor of Philosophy general examination. May be repeated for credit. (Fall and spring)
- 399 **Dissertation Research** (arr.) Staff
Limited to Doctor of Philosophy candidates. May be repeated for credit. (Fall and spring)

PHARMACOLOGY—GRADUATE PROGRAMS

Professors H.G. Mandel (Chair), V.H. Cohn, P. Mazel, J.A. Straw, P. Klubes, F.P. Abramson
 Professorial Lecturer J. Axelrod
 Associate Professors K.A. Kennedy, D.C. Perry
 Assistant Professors S.R. Patierno, L.L. Werling

Master of Science in the field of pharmacology—Prerequisite: a Bachelor of Arts or Bachelor of Science degree. The undergraduate program must have included the following courses, or equivalent: BiSc 11-12; Phys 1, 2; Math 31, 32; Chem 11-12, 22, 151-52, 153-54. A course in physical chemistry is also recommended.
 Required: the general requirements stated under the Graduate School of Arts and Sciences, including Bioc 221-22; Phyl 201, 212; Phar 203, 205, 299-300.

* Richard J. Montali is Adjunct Associate Professor of Pathology (Comparative Pathology) at the GW School of Medicine and Health Sciences.

Doctor of Philosophy in the field of pharmacology—Required: the general requirements stated under the Graduate School of Arts and Sciences.

Research fields: behavioral pharmacology, biochemical pharmacology and toxicology, cancer chemotherapy, carcinogenesis, drug metabolism, drug assay methodology, molecular pharmacology, neuropharmacology, genetic toxicology, cardiovascular pharmacology, pharmacokinetics, pharmacology of drug abuse, and neuroendocrine pharmacology.

Second Group

114 Drugs and the Consumer (3)

General concepts of drug action in the body. Action mechanism of some specific prescription and nonprescription drugs, including contraceptives; tranquilizers and sleep-inducing drugs; hayfever, headache, and cold remedies; analgesics; antibiotics; vitamins. Issues related to development and marketing of drugs, drug safety, drug advertising, generic versus trade-name drugs, drug use in sports, drug use during pregnancy, smoking and health. No science prerequisites. Limited enrollment. (Fall)

115 Nonmedical Use of Licit and Illicit Drugs (3)

Psychological and sociological bases of recreational and other nonmedical use of drugs, pharmacological and toxicological aspects of drug action on both the brain and peripheral organ systems, legal and societal implications of and reactions to the nonmedical use of drugs, prevention and treatment of drug dependence. *Lectures and discussions on alcohol, narcotics, central nervous system stimulants and depressants, marijuana, hallucinogenic and psychodelic drugs.* There are no science prerequisites. (Spring)

158 Pharmacology for Health Sciences Students (4)

For students in health sciences programs; open to graduate students with permission of the instructor. Drug disposition; autonomic nervous system, cardiovascular, and gastrointestinal drugs; psychopharmacology; analgesics, sedatives, anticonvulsants; chemotherapy, toxicology, endocrinology. Prerequisite: Anat 115, Phyl 111.

Third Group

203 Fundamental Principles of Pharmacology and Toxicology (3)

Basic principles of pharmacology, including drug receptor interactions, structure-activity relationships, pharmacokinetics, membrane phenomena, cellular control mechanisms; mechanisms of mutagenesis, carcinogenesis, teratogenesis, and specific organ toxicity; risk assessment and extrapolation. Admission by permission of the instructor. (Fall)

205 Pharmacology (8)

Lectures, laboratory, conferences on interaction of drugs and biological systems as a basis of rational disease therapy. Prerequisite: Phar 203, courses in biochemistry and physiology, or approval of department. (Fall)

220 Molecular Events in Toxic Actions (2)

Metabolism of xenobiotics to cytotoxic products. Environmental and genetic factors influencing toxic actions. Molecular mechanisms of toxicity. Prerequisite: Phar 203. (Spring)

222 Genetic Toxicology (2)

The action of chemicals and radiation in the induction of DNA damage and repair *in vitro* and *in vivo* and the sequelae of these processes in cells and mammals. DNA repair mechanisms, mammalian cell toxicity, mutagenesis, and carcinogenesis. Prerequisite: Bioc 221–22. (Spring)

230 Special Topics in Toxicology (arr.)

Selected aspects of toxicology. Content differs each time the course is offered. May be repeated for credit. (Fall and spring)

254 Frontiers in Pharmacology (1)

Recent advances and research in pharmacology. Presentations by laboratory scientists from neighboring institutions. (Spring)

- 258 **Cancer Chemotherapy** (1) Mandel and Staff
Seminars on mechanisms by which drugs inhibit the growth of tumor cells.
(Spring, even years)
- 259 **Readings: Cancer and Cancer Chemotherapy** (2) Klubes
Selected readings and discussion of recent advances in cancer and cancer chemotherapy research. Prerequisite: Phar 201 or 205. (Spring, odd years)
- 269 **Pharmacology Seminar** (1) Mandel
Recent advances in pharmacology. Content differs each time the course is offered; may be repeated once for credit. (Fall)
- 272 **Physiological Disposition of Drugs** (3) Cohn
Mechanisms for the absorption, distribution, metabolism, and excretion of drugs and the physical, chemical, and biological factors affecting these processes are studied through extensive reading of classical and current original literature. Prerequisite: Bioc 221-22, Phar 203, or permission of the instructor. (Spring)
- 273 **Pharmacokinetics: Principles and Applications** (2) Abramson and Staff
A description of compartmental and physiological models of drug disposition. Problem solving to obtain rate constants, organ clearances, etc., from experimental data. Examples of drug disposition exemplifying various pharmacokinetic approaches. (Spring)
- 275-76 **Advanced Topics in Pharmacology and Toxicology I-II** (1-1) Cohn and Staff
Lectures and seminars on advances in mechanisms of drug action, pharmacology of new drugs, theoretical aspects of pharmacology, laboratory techniques. (Alternate academic years)
- 277-78 **Advanced Topics in Pharmacology and Toxicology III-IV** (1-1) Cohn and Staff
Continuation of Phar 275-76. (Alternate academic years)
- 279 **Special Topics in Pharmacology** (arr.) Staff
Selected aspects of drug action. Content differs each time the course is offered; may be repeated once for credit. (Fall and spring)
- 280 **Neuropharmacology** (2) Perry, Werling
Fundamental principles. Electrophysiological and biochemical techniques. Neurotransmitters and their pathways in the central nervous system. Drug effects on neurotransmitter pathways. Biochemical basis of mental disease. Prerequisite: Phar 205 or equivalent. (Spring)
- 295 **Reading and Research** (arr.) Staff
May be repeated for credit. (Fall and spring)
- 299-300 **Thesis Research** (3-3) Staff
(Fall and spring)
- Fourth Group**
- 398 **Advanced Reading and Research** (arr.) Staff
Limited to students preparing for the Doctor of Philosophy general examination. May be repeated for credit. (Fall and spring)
- 399 **Dissertation Research** (arr.) Staff
Limited to Doctor of Philosophy candidates. May be repeated for credit. (Fall and spring)

PHILOSOPHY

University Professor P.J. Caws
Professors R.H. Schlagel, R.S. French, W.B. Griffith (Chair)
Associate Professors R.P. Churchill, A. Altman
Adjunct Associate Professor G.M. Bowles
Assistant Professor D. DeGrazia (Visiting), D.S. Harris (Visiting)
Adjunct Assistant Professor J.F. Uebelhoer

Bachelor of Arts with a major in philosophy (departmental)—The following requirements must be fulfilled:

1. The general requirements stated under Columbian College of Arts and Sciences.
 2. Required courses in related areas—6 hours selected from art history, music history, or religion; 6 hours in history (Hist 39–40 recommended).

3. Required courses in the major—a minimum of 30 semester hours, including as foundational courses Phil 111, 112, 113, 131, and 152; one course selected from each of the following groups: Group A (normative)—Phil 127, 132, 142, 162; Group B (epistemological)—Phil 121, 151, 153; Group C (contemporary)—Phil 172, 192, 193; plus 6 semester hours of elective second- or third-group courses, selected in consultation with a departmental advisor.

For students expecting to continue in graduate school, it is recommended that they include in their programs of study 12 semester hours of introductory French, German, or Greek language courses.

Minor in philosophy—Required: a minimum of 18 semester hours of philosophy courses, including two courses chosen from Phil 51, 52, 111, 112, 113; one course chosen from Phil 127, 131, 132, 133, 135, 142, 162; and one course chosen from Phil 121, 151, 152, 153.

Minor in applied ethics—Required: 18 semester hours of philosophy courses, including Phil 51 or 52, and 131 and 132, plus three courses selected from Phil 133, 135, 142, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000.

Master of Arts in the field of public policy with a concentration in philosophy and social policy—An interdisciplinary program that brings the normative, historical, and analytical skills of philosophical inquiry to bear upon contemporary problems of social policy. Prerequisite: a bachelor's degree from an accredited college or university. Students are expected to have completed the prerequisites to graduate courses.

Required: the general requirements stated under the Graduate School of Arts and Sciences. Two options are available at the discretion of the faculty: (1) a minimum of 24 semester hours of approved graduate course work plus the successful completion of a thesis, or (2) a minimum of 36 semester hours of graduate course work that does not include a thesis. All students are required to take four courses selected from Phil 231, 242, 245, 255, 262; and, for the public policy core, four courses selected from Stat 111, 183; Econ 217; PSC 203; Psc 244; Stat 129 or CSci 100 (*Introduction to Computer Science*). Phil 205 is open to all students; it is required of those with insufficient background in philosophy, as determined by the department. Phil 299–300 is required for students electing to write a thesis. Each candidate must pass a Master's Comprehensive Examination based on the particular interdisciplinary composition of the student's program of study. Prospective candidates should consult Professor W.B. Griffith, chair of the department.

First Group

45 Introduction to Logic (3)

Deduction, induction, and legal reasoning; emphasis on recognition of fallacies and practical applications of logic. (Fall, spring, and summer) Churchill, Bowles

51–52 Introduction to Philosophy (3–3)

Readings from major philosophers and study of their philosophical positions in historical, social, and cultural context. Phil 51: Classical, medieval, and early modern philosophers: Socrates through Locke. Phil 52: Enlightenment, 19th- and 20th-century philosophers: Hume through Sartre. (Academic year) Staff

71 Philosophy and Literature (3)

A study of some works of literature (mainly 20th-century novels) that serve as vehicles for the working out, expression, and communication of philosophical ideas. (Spring) Caws and Staff

Second Group

111 History of Ancient Philosophy (3)

History of Western philosophy from early Greece, including the Near East, with major emphasis on the Pre-Socratics, Socrates, Plato, and Aristotle. (Fall) Schlager

- 112 **History of Modern Philosophy** (3) Churchill
History of Western philosophy of the 17th and 18th centuries; Continental Rationalism and British Empiricism from the scientific revolution through the Enlightenment; major emphasis on Hobbes, Descartes, Spinoza, Locke, Berkeley, Hume, and Kant. (Spring)
- 113 **19th-Century Philosophy** (3) Altman
European philosophy of the 19th century, with major emphasis on Kant, Hegel, Schopenhauer, Kierkegaard, and Nietzsche. (Spring)
- 121 **Symbolic Logic** (3) Griffith
Formal evaluation of deductive arguments in politics, law, economics, etc. Additional topics: metatheory of deductive systems; modal logics; logic and computers. Prerequisite: some knowledge of propositional logic or permission of instructor. (Spring)
- 125 **Philosophy of Race and Gender** (3) Staff
An examination of race and gender as social categories that define personal and social identity. Readings from Beauvoir, Fanon, Foucault, Sartre, and a variety of literary narratives. (Spring)
- 127 **Theories of History and Society** (3) Altman
Major philosophical accounts of the course of history and the origins of society, including Marxist theory and its critics. Problems of how we can explain the past and predict the future.
- 131 **Ethics: Theory and Applications** (3) Griffith, Altman, DeGrazia
Main types of ethical theory: egoistic, utilitarian, self-realization, conscience, existentialism. Applications to contemporary problems. (Fall)
- 132 **Social and Political Philosophy** (3) Altman
Philosophical theories about how economic, political, legal, and cultural institutions should be arranged. Topics include the meaning and significance of liberty, the legitimate functions of government, the nature of rights, the moral significance of social inequality, and the meaning of democracy. (Spring)
- 133 **Philosophy, Nonviolence, and War** (3) Churchill
Philosophies of nonviolence; logical and moral problems of nuclear deterrence and national defense; doctrine of just war. (Fall)
- 135 **Ethics in Business and the Professions** (3) Uebelhoer
Basic concepts and theories of ethics for analysis of moral issues arising in business and professional practice. (Fall and spring)
- 142 **Philosophy of Law** (3) Churchill, Altman
Systematic examination of fundamental concepts of law and jurisprudence; special emphasis on the relationship between law and morality. (Fall)
- 151 **Science and the Modern World** (3) Schlager
Comparison of the cosmological frameworks of Aristotle, Newton, Einstein, and quantum mechanics. Emphasis on changing concepts and methodologies, modes of explanation, and ontological implications. (Fall)
- 152 **Knowledge and Reality** (3) Schlager
Inquiry into the basis and structure of knowledge, the problem of perception and independent reality, the role of language in knowledge, and the meaning and criteria of truth. Prerequisite: Phil 52 or 112 or permission of instructor. (Spring)
- 153 **Mind, Brain, and Artificial Intelligence** (3) Schlager
The mind-body problem in connection with developments in neurophysiology, cognitive psychology, and artificial intelligence. Evaluation of the major philosophical positions: dualism, epiphenomenalism, double-aspect theory, identity theory (reductive physicalism), eliminative materialism, and functionalism. (Spring)
- 162 **Aesthetics** (3) Staff
The problem of artistic representation and the nature of aesthetic experience as related to the creation, appreciation, and criticism of art. Special emphasis on nonrepresentational works of art and their interpretation. (Fall)

- 172 **American Philosophy** (3)
Philosophies of Peirce, Royce, James, Dewey, and Santayana as representatives of American thought.
- 192 **Analytical Philosophy** (3)
The dominant movements of recent Anglo-American philosophy—logical positivism, British ordinary language philosophy, and neopragmatism—represented by Russell, G.E. Moore, Wittgenstein, Ryle, Ayer, Goodman, Quine, etc. Prerequisite: One other second-group philosophy course. (Fall)
- 193 **Phenomenology and Existentialism** (3)
Kierkegaard's existentialist reaction to Hegel; subjectivity and intentionality in 19th-century thought, leading to Husserl's phenomenology; the philosophy of existence in Heidegger and Sartre; the relation between existentialism and Marxism in the later work of Sartre. Prerequisite: One other second-group philosophy course. (Spring)
- 194 **Structuralism and Hermeneutics** (3)
Structuralism in linguistics (since Saussure), anthropology (Lévi-Strauss), and literary criticism (Barthes and others) and its implications for philosophy (Foucault). The movement will be assessed in relation to other contemporary philosophical trends, especially the hermeneutics of Gadamer and Ricoeur. Prerequisite: One other second-group philosophy course.
- 199 **Readings and Research** (3)
(Fall and spring)

Third Group

- 201–2 **Readings and Research** (3–3)
Advanced readings and reports. Investigation of special problems. (Academic year)
- 205 **Selected Schools and Problems** (3)
An advanced review of the rise of modern empiricism, idealism, and pragmatism, with particular attention to controversies regarding problems of method, epistemology, and social and political theory. Recommended for graduate students who have majored in fields other than philosophy. (Offered as the demand warrants)
- 231 **Seminar: Economic Justice** (3)
Ethical and economic analysis of equity and efficiency of current U.S. income distribution patterns. Theories of justice; economic theories of distribution; assessment of redistribution policies. (Fall, odd years)
- 235 **Ethics and Business** (3)
Concepts and strategies of ethical analysis applied to specific business problems, e.g., risk management, plant relocation, preferential hiring, political advertising; development of theory of corporate social responsibility. Same as BAD 291. (Spring)
- 242 **Philosophy, Law, and Social Reform** (3)
A philosophical investigation of moral and legal rights in the American tradition, the importance of claims of right and entitlement in policy issues, and the ways legal institutions define specific rights by limiting or giving effect to our duties and liberties. (Spring)
- 245 **Seminar: Rights and the Public Interest in Information Policy** (3)
Society's requirements for policy data versus rights to privacy; rights to self-expression and access to information; public interest in enhancing balanced discussion (FCC's "fairness doctrine," regulation of advertising, limitation on campaign expenditures). (Fall, even years)
- 251 **Seminar: Philosophy of Science** (3)
Selected topics. (Fall, odd years)
- 252 **Seminar: Epistemology** (3)
Critical examination of selected problems or theories of knowledge. (Fall, even years)

- 255 **Philosophy of the Social Sciences** (3) Altman
Philosophic issues relating to theory, methodology, and application of the social sciences. (Fall)
- 262 **Seminar: Normative Issues in Foreign Policy** (3) Churchill
Selected issues on the complexities of foreign policy from a normative perspective, including the ethics of military intervention, normative constraints on the pursuit of national interest, the protection of human rights, and the democratic control of foreign policy. (Spring, even years)
- 299–300 **Thesis Research** (3–3) Staff

PHYSICAL SCIENCE

See **Chemistry**.

PHYSICS

Professors H.H. Hobbs, O. Bergmann, A.J. Zuchelli, F. Prats, D.R. Lehman (Chair), B.L. Berman
Adjunct Professor L.C. Maximon
Professorial Lecturers A. Ghovanlou, W.D. Lee, J.J. Coyne, R. Eaton III
Associate Professors W.C. Parke, N.K. Khatcheressian, M.F. Taragin, E.P. Harper, W.J. Briscoe, J.R. Peverley
Associate Professorial Lecturers J.W. Lightbody, M. Fatemi, M.T. Shams, M.I. Haftel, J.T. Broach
Assistant Professors A. Mokhtari (Research), K.S. Dhuga, H. Haberzettl
Lecturer A. Chakarji

Bachelor of Arts with a major in physics (departmental)—The following requirements must be fulfilled:

1. The general requirements stated under Columbian College of Arts and Sciences.
2. Prerequisite courses—Phys 13, 14, 15, 16 (or Phys 21, 5, 22, 6); Chem 11–12; Math 31, 32, 33.
3. Required courses in related area—CSci 100; Math 111–12.
4. Required courses in the major—Phys 151–52, 161, 162, 163, 164, 165–66, 167, 168, 195.

Bachelor of Science with a major in physics (departmental)—The following requirements must be fulfilled:

1. The general requirements stated under Columbian College of Arts and Sciences.
2. Prerequisite courses—Phys 13, 14, 15, 16, (or Phys 21, 5, 22, 6, and 16 or 167); Chem 11–12; Math 31, 32, 33.
3. Required courses in related area—CSci 100; Math 111–12.
4. Required courses in the major—Phys 151–52, 163, 164, 195–96, plus three additional 100-level courses chosen with consent of departmental advisor.

For graduation with Special Honors, a student must register for Phys 195 by the beginning of the senior year. The decision to award Special Honors will be based on competence in research and general achievement in physics as evaluated by the faculty.

Minor in physics—Required: Phys 13, 14, 15, 16; Phys 163 and 164 or approved substitutes from 100-level physics courses.

Master of Arts in the field of physics—Prerequisite: a bachelor's degree with a major in physics at this University, or an equivalent degree.

1. The master's degree program with thesis—Required: the general requirements stated under the Graduate School of Arts and Sciences, and 30 semester hours of course work in physics, including Phys 211, 212, 214, 221–22, 299–300; plus two of the following: Phys 224, 225–26, 231, 233, 243, 244.
2. The master's degree program without thesis—Required: the general requirements stated under the Graduate School of Arts and Sciences, and 36 semester hours of course

work in physics and mathematics including Phys 211, 212, 214, 221–22; plus two of the following: Phys 224, 225–26, 231, 233, 243, 244.

The successful completion of a high-level computer language course with a grade of A or B is required for either option.

Doctor of Philosophy in the field of physics—Required: the general requirements stated under the Graduate School of Arts and Sciences, including the following required courses: Phys 211, 212, 214, 215, 216, 221–22, 224, 231, 232, 233–34 or 243–44; one course chosen from Math 222, 223, 232.

Research fields: nuclear physics—experimental and theoretical studies on the structure, electromagnetic and strong interactions, and scattering of few-body systems at low and intermediate energies; solid-state physics—crystal growth and physical properties of whiskers, and ultrasonic probing of electron scattering in solids.

First Group

- 1 **General Physics I** (3) Briscoe, Parke
Lecture (2 hours), recitation (1 hour). Development of the principles underlying modern physical knowledge; basics of mechanics, heat, and light, including the classical concepts of energy, momentum, heat, temperature, entropy, and optics. Prerequisite: two years of college preparatory mathematics or concurrent registration in Math 6.
- 2 **General Physics II** (3) Briscoe, Parke, Zuchelli
Lecture (2 hours), recitation (1 hour). Topics focusing upon present understanding of the physical universe and character of the atomic and subatomic worlds. Includes considerations of electric and magnetic phenomena, relativity theory, wave-particle duality, quantum theory, nuclei, and subnuclear particles. Prerequisite: Phys 1 or equivalent.
- 5 **General Physics Laboratory I** (1) Zuchelli
Laboratory complement of Phys 1 and 21. Two and a half hours. Prerequisite: concurrent or prior registration in Phys 1 or concurrent registration in Phys 21. Laboratory fee, \$40.
- 6 **General Physics Laboratory II** (1) Mokhtari, Zuchelli
Laboratory complement of Phys 2 and 22. Two and a half hours. Prerequisite: concurrent or prior registration in Phys 2 or concurrent registration in Phys 22. Laboratory fee, \$40.
- 9 **Introduction to Astronomy I** (3) Hobbs
Classical through modern astronomy, with introduction to basic principles underlying astronomical systems and observations. Lectures cover electromagnetic radiation, optical instruments, and the solar system. Laboratory (2 hours) emphasizes optics and astronomical measurements. Prerequisite: High school algebra. Laboratory fee: \$30. (Fall)
- 10 **Introduction to Astronomy II** (3) Hobbs
Continuation of Phys 9. Stellar and extragalactic astronomy, including introduction to quantum aspects of electromagnetic radiation and atomic physics, stellar spectra, and stellar evolution. Laboratory (2 hours) has the same emphasis as in Phys 9. Prerequisite: Phys 9 or equivalent. Laboratory fee, \$30. (Spring)
- 11–12 **Introduction to Astronomy** (2–2) Hobbs
Same as Phys 9–10 without the laboratory. (Academic year)
- 13 **General Physics for Engineering and Applied Science** (3) Dhuga
Lecture (3 hours), recitation and laboratory (2 hours). Development of basic principles of optics and dynamics. Topics include geometrical optics, vector algebra, statics of rigid bodies, single-particle kinematics and dynamics, conservation of energy. Concurrent registration in Math 31 is required. Laboratory fee, \$40.
- 14 **Mechanics and Thermal Physics** (3) Khatcherevian
Lecture (3 hours), recitation and laboratory (2 hours). Elementary development of mechanics for many-particle systems and basic thermodynamics. Topics include

collisions, rotational motion, small vibrations, gravitation, fluid dynamics, wave motion, the ideal gas, the laws of thermodynamics, thermal properties of solids and liquids. Prerequisite: Phys 13; Math 31. Laboratory fee, \$40.

15 **Electricity and Magnetism** (3) Haberzettl, Taragin

Lecture (3 hours), recitation and laboratory (2 hours). Introductory aspects of electromagnetic theory. Topics include static electric fields, Coulomb's Law, Gauss's Law, electrical potential, capacitance and dielectrics, electric current and resistance, Ampere's Law, Faraday's Law, Maxwell's equations in integral form, electromagnetic waves. Prerequisite: Phys 14; Math 31. Laboratory fee, \$40.

16 **Modern Physics** (3) Lehman

Lecture (3 hours), recitation and laboratory (2 hours). Elementary approach to the basic principles of special relativity and quantum theory. Topics include relativistic kinematics and dynamics, wave-particle duality, the hydrogen atom, Pauli's exclusion principle, x-ray spectra, the atomic nucleus, radioactivity, nuclear reactions, statistical distribution laws, applications to molecular and solid-state physics. Prerequisite: Phys 14, 15; Math 32. Laboratory fee, \$40.

21 **University Physics I** (3) Berman

Lecture (2 hours), recitation (1 hour). Physical concepts and principles are developed using calculus. Topics include classical mechanics, heat, waves, and optics. Concurrent registration in Phys 5 is required. Prerequisite or concurrent registration: Math 31. (Fall)

22 **University Physics II** (3) Berman

Lecture (2 hours), recitation (1 hour). Continuation of Phys 21. Topics include electric and magnetic phenomena, relativity, atomic and nuclear physics. Concurrent registration in Phys 6 is required. Prerequisite: Phys 21; prerequisite or concurrent registration: Math 32. (Spring)

Second Group

121 **Modern Cosmology** (3) Hobbs

Nonmathematical treatment of cosmology and related subjects from astronomy and physics. Quasars, peculiar galaxies, pulsars, black holes, antimatter, etc. Prerequisite: Phys 10 or 12.

151-52 **Intermediate Laboratory** (3-3) Dhuga

Independent advanced work to introduce students to research techniques and use of specialized instruments. Laboratory fee, \$30. (Fall and spring)

161 **Mechanics I** (3) Prats

Mechanics of mass points and rigid bodies. Newton's laws, conservation laws, Euler's equations, inertia tensor, small vibrations, and elements of Lagrange's and Hamilton's equations.

162 **Mechanics II** (3) Bergmann

Basic aspect of continua, including elasticity and fluid dynamics, strain tensor, stress tensor, equations of equilibrium, elastic waves, ideal and viscous fluids.

163 **Physical and Quantum Optics** (3) Harper, Peverley

Oscillations and waves, energy and momentum of the electromagnetic field, interference, diffraction, geometrical optics, optics of crystals and other media, dispersion.

164 **Thermodynamics** (3) Parke, Taragin

Principles and applications of equilibrium thermodynamics, reversible processes, thermodynamic potentials, stability and phase changes.

165-66 **Electromagnetic Theory** (3-3) Zuchelli

Development of Maxwell's field equations using vector and tensor calculus, electrostatics, stationary and nonstationary phenomena, basic circuit theory, electromagnetic waves and radiation.

167 **Principles of Quantum Physics** (3) Haberzettl, Prats

Development of logical structure and experimental bases for modern quantum mechanics. Simple examples worked out to clarify the structure; primary emphasis on conceptual framework and its mathematical realization; careful consideration of the laboratory results to which the theory is a response.

- 168 Applied Quantum Physics (3)**
Explicit applications of principles of quantum mechanics to a variety of problems in atomic, molecular, and nuclear physics. Quantum statistical mechanics developed with applications in solid state. Emphasis on explicit evaluation of solutions and the techniques required. Prerequisite: Phys 167 or equivalent. Mokhtari, P.
- 170 Elementary Solid-State Physics (3)**
Structure of solids, lattices and lattice defects, deformation, vibrational and electronic contribution to specific heats, binding energies, electronic states in metals and semiconductors, magnetic properties of solids. Elementary methods required such as quantum mechanics and normal mode expansions are developed as needed. Khatcheresian
- 175 Nuclear Physics (3)**
Introduction to application of quantum physics in the description of nuclei and their interactions. Properties of nuclei, nuclear models, nuclear forces, and nuclear reactions are considered. Specific topics include the deuteron, n-p scattering, the optical model, the shell model, the liquid-drop model, beta decay, fission, and fusion. Prerequisite: Phys 167 or permission of instructor. Berman, Lehman
- 195-96 Undergraduate Research (3-3)**
Research on problems approved by the staff. For the B.A. option, emphasis will be placed on advanced laboratory experience. For the B.S. option, the two semesters will involve advanced laboratory experience and applications of computers to the solution of physics problems, respectively. Briscoe, Taragin

Third Group

Consent of a departmental graduate advisor is required for admission to all third-group courses in physics.

- 209-10 Theoretical Methods in Classical and Quantum Physics (3-3)**
Joint offering of the Mathematics and Physics Departments. Topics covered include solutions of partial differential equations encountered in physics; techniques of linear algebra; calculus of variations; complex analysis; applications in physics of the theory of analytic functions; integral equations; and group theory. Staff
- 211 Advanced Mechanics (3)**
Analytic methods of mechanics as a basis for modern theory; variational principles, Lagrange's equations, Hamiltonian formulation, canonical transformations, classical perturbation theory. Taragin
- 212 Special Relativity (3)**
Application of relativistic concepts to the basic fields of physics; space and time tensors and covariant mechanics of point particles, covariant form of electromagnetism, relativistic variational principles, relativistic quantum equations. Bergmann
- 214 Electromagnetic Theory**
Principles of electrostatics and magnetostatics with applications to the solution of boundary-value problems in electrically and magnetically active media. Maxwell's equations, time-varying fields, and plane-wave propagation. Radiating systems and scattering of radiation, including multipole fields. Dynamics of relativistic particles and radiation from moving charges. Harper
- 221-22 Quantum Mechanics (3-3)**
General aspects of quantum mechanics with emphasis upon the developmental principles involved. Operators, representations, and transformation theory. Schrödinger and Heisenberg pictures, angular momentum, perturbation theory, scattering theory. (Academic year) Pevsner
- 224 Statistical Mechanics (3)**
Study of classical and quantum-equilibrium statistical mechanics. Kinetic theory and transport phenomena reviewed prior to examining principles of statistical mechanics. Among topics considered: distribution functions, H theorems, partition functions, Gibb's paradox, canonical ensemble, grand canonical en-

- semble, ideal gases, interacting gases, cluster expansion, virial expansion, and density matrices.
- 225-26 **Laboratory (3-3)** Hobbs, Briscoe
Individual work on special topics. Laboratory fee, \$30 per semester.
(Academic year)
- 231 **Quantum Electrodynamics: Theory and Applications (3)** Lehman
A presentation of the lower-order effects depending upon the quantal nature of the electromagnetic field: Hamiltonian formulation and field quantization, perturbation calculations, Compton effect, photoelectric effect, electron-electron scattering, pair creation and annihilation, indices of refraction, divergence difficulties.
- 232 **Quantum Field Theory (3)** Parke
Covariant presentation of general theory of quantized fields, Boson and Fermion fields, theory of S matrix, dispersion relations, and renormalization program.
- 233-34 **Nuclear Theory (3-3)** Prats, Lehman
Nuclear interactions, nuclear models, theory of nuclear reactions, pion physics, weak interactions, and electromagnetic interactions.
- 243 **Solid-State Physics: Structure and Binding (3)** Khatcheressian, Hobbs, Peverley
Atomic structure of solids and analysis of the binding of crystals. Crystalline forms and symmetries, atomic vibrations and specific heats, sound and optical propagation, crystalline defects.
- 244 **Solid-State Physics: Electronic Processes in Metals (3)** Khatcheressian, Peverley
Phenomena in metals and semiconductors determined by the electronic states allowed: binding, specific heats, magnetic properties, transport phenomena. Independent particle approximation and many-body aspects are discussed.
- 250 **Selected Topics in Modern Physics (3)** Staff
Possible topics include nuclear three-body problem; group theory and symmetry principles in physics; differential manifolds applied to physics; electronic states and superconductivity; gauge field theories; dispersion relations and unitarity in scattering theory. May be repeated for credit with permission of graduate advisor. (Fall and spring)
- 291 **Seminar (1)** Staff
Lectures on special problems in physics. May be repeated once for credit. (Fall and spring)
- 299-300 **Thesis Research (3-3)** Staff
(Fall and spring)
- Fourth Group**
- 398 **Advanced Reading and Research (arr.)** Staff
Limited to students preparing for the Doctor of Philosophy general examination. May be repeated once for credit. (Fall and spring)
- 399 **Dissertation Research (arr.)** Staff
Limited to Doctor of Philosophy candidates. May be repeated for credit. (Fall and spring)

PHYSIOLOGY

Professors R.A. Kenney, M.E. Tidball, M.M. Cassidy, M.J. Jackson, J.J. Bernstein (Research), K.L. Becker, W.B. Wegliki
Associate Professors R.A. Lavine, D.W. Watkins (Acting Chair), J.K. Kelleher (Research)

Departmental prerequisite: Phyl 201 or equivalent is prerequisite to all courses in physiology numbered above 201, except Phyl 205, 221, and 212.

Second Group**191 Selected Topics in Human Structure and Function (3)**

Structural and functional basis of physiology. Required for graduate students who have not had Anat 201 or equivalent; students may receive graduate credit on completion of additional work as prescribed by the instructor. Prerequisite: BiSc 11-12 or equivalent and consent of instructor. Open to Columbian College students with the approval of the major advisor. (Fall)

Third Group**201 Physiology (8)**

Cellular, organ system, and applied mammalian physiology. Prerequisite for graduate students: Anat 201 or Phyl 191, or equivalent; Bioc 221 or Phyl 205, or consent of chairman of department. Concurrent registration in Phyl 212 is required. Open to Consortium students only with permission of chairman of department. (Spring)

205 Regulatory Cell Biology (2)

Lecture (2 hours). An introductory survey of the mechanisms for interconversion and utilization of energy in animal cells. A required course for graduate students intending to take Phyl 201. Prerequisite: BiSc 11-12 or equivalent, and consent of instructor. Open to students in the Columbian College of Arts and Sciences with the approval of the student's major advisor. (Fall)

212 Neurobiology (3)

Same as Anat 212. An integrated survey of the structure and function of the human nervous system; lecture, clinical demonstrations, and laboratory. Laboratory fee, \$25. (Spring)

221 Seminar (1)

Staff and student presentations from literature. Present work discussed, experimental design and scientific deduction evaluated. Topics to be announced. Content differs each time the course is offered; may be repeated for credit. (Fall and spring)

253 Physiology of Fluid Balance and Hydrogen Ion Regulation (2)

Discussion of principles of fluid and acid-base balance and their applications. (Fall)

262 Topics in Cardiovascular Physiology (2)

Survey, at an advanced level, of aspects of cardiovascular physiology, especially as interrelated with the respiratory and renal systems. (Fall)

269 Topics in Neurophysiology and Psychophysiology (2)

Selected topics in contemporary neurophysiology, including methods of data collection and analysis, control mechanisms involved in movement and behavior, and sensory processing. Open to students in the School of Engineering and Applied Science with permission of instructor. (Fall)

295 Research (arr.)

By special arrangement with individual staff members. Approximately four hours per week in the laboratory for each semester hour of credit. May be repeated for credit. (Fall and spring)

298 Comprehensive Physiology (5)

Guided review of selected areas of physiology appropriate to the student's graduate program. Prerequisite or concurrent registration: Phyl 221. (Fall)

299-300 Thesis Research (3-3)

(Fall and spring)

Fourth Group**396 Advanced Reading and Research (2)**

Limited to students preparing for the Doctor of Philosophy general examination. Tutorial literature survey of a subfield of physiology and of pertinent areas of the candidate's supporting field. This course satisfies the requirement for Part II of the Cumulative General examination in Physiology. (Fall and spring)

- 397 **Development of Dissertation Problem (2)** Staff
 Limited to students preparing for the Doctor of Philosophy general examination. Preparation for written and oral presentation of dissertation problems. This course satisfies the requirement for Part III of the Cumulative General Examination in Physiology. (Fall and spring)
- 399 **Dissertation Research (arr.)** Staff
 Limited to Doctor of Philosophy candidates. May be repeated for credit. (Fall and spring)

POLISH

See **Slavic Languages and Literatures.**

POLITICAL COMMUNICATION

Committee on Political Communication

J.B. Manheim (Director), W.C. Adams, R.S. French, S.G. Larson, J.A. Morgan, W.M. Reynolds, P. Robbins, J.E. Thiel

Columbian College of Arts and Sciences offers an interdepartmental program in political communication leading to the degree of Bachelor of Arts. Enrollment into the major is restricted; contact the program office for details.

The following requirements must be fulfilled:

1. The general requirements stated under Columbian College of Arts and Sciences.
2. Prerequisite courses: one course chosen from Stat 53, 91, 105 (Stat 53 is usually preferred); PSc 1, 2; Econ 11 or 12; Comm 133; Jour 72.
3. Required courses in the major:

(a) PCm 100, 199; Comm 100, 130; Jour 111; PCm/PSc 103; PSc 120.

(b) Four courses selected from the following, at least two of which must be courses other than political communication: PCm 150, 191, 192, 195; Jour/PSc 128; Comm/Jour/PSc 129; Comm 175, 181, 184; Jour 146, 198.

(c) Four additional second-level courses offered by the Departments of Communication, Journalism, and/or Political Science.

Special Honors—Students with a grade-point average of at least 3.5 in all course work completed at this institution and in all courses required for the major may declare for Special Honors at the beginning of the senior year. To achieve Special Honors, the student must maintain the stated grade-point requirements and present a successful oral defense of a research paper prepared for the Senior Seminar in Political Communication before an interdisciplinary committee that includes the program director and two other faculty members nominated by the student and approved by the program director. It is recommended that students declaring for Special Honors take PCm 195 in the first semester of the senior year and PCm 199 in the second semester.

100 **Introduction to Political Communication (3)** Manheim

Basic concepts and theories of political communication; development of a framework for analyzing political communication; applications in the United States, other countries, and the international system. Limited to political communication majors. (Spring)

103 **Political Communication Research (3)** Manheim

Strategies and techniques of empirical research with application to the study and practice of political communication. Same as PSc 103. Students may not receive credit for both PCm/PSc 103 and PSc 101. Prerequisite: PCm 100. (Fall)

150 **Selected Topics in Political Communication (3)**

Topics announced in the *Schedule of Classes*. May be repeated for credit provided the topic differs. Prerequisite: PCm 100 or permission of the program director.

191-92 **Field Experience (3-3)**

Open to juniors and seniors majoring in political communication. Students spend at least 16 hours a week during the semester in an approved agency or

office performing practical work in the subject under the general guidance of a faculty advisor. Grades are assigned on a pass/no pass basis only.

195 **Independent Study** (1 to 6)

The student pursues a program of directed reading or original research under the direction of a faculty advisor. Limited to seniors or exceptionally well-prepared juniors majoring in political communication. Before registering, the student must obtain approval of a written plan of study by the faculty member who will direct the study and the program director.

199 **Senior Seminar in Political Communication** (3)

Limited to majors in political communication. Selected reading and discussion with possible fieldwork in the professional subject.

POLITICAL SCIENCE

Professors H.L. LeBlanc, B. Nimer, H.C. Hinton, B.M. Sapin, J.A. Morgan, Jr., B. Reiser (Chair), Y.C. Kim, J.M. Logsdon, W.H. Lewis, C.A. Linden, H.R. Nau, M.A. East, J. Mannheim, C. McClintock, P. Reddaway
Associate Professors C.F. Elliott, J.R. Henig, M.J. Sodaro, S.L. Wolchik, R.W. Rycroft, C. Deering, C.C. Joyner, H.B. Feigenbaum, J.H. Lebovic
Assistant Professors R.P. Stoker, J.P. Rogers, V. Coleman, S.G. Larson, N.J. Brown, S. Wiley, S.A. Baynard (Visiting)

Bachelor of Arts with a major in political science (departmental)—The following requirements must be fulfilled:

1. The general requirements stated under Columbian College of Arts and Sciences.
2. Prerequisite: PSc 1 and 2 (or the equivalent). Six courses in the social sciences, other than political science, to include 6 hours of history or 6 hours of economics. Two semester hours of introductory foreign language and statistics are strongly recommended.
3. Required courses in the major: 30 semester hours of second-group political science courses, including a distribution requirement that consists of 6 semester hours from each of the following groups: Group A (political theory and methodology)—PSc 101, 102, 104, 106, 107, 108, 110; Group B (American government and politics)—PSc 111, 112, 114, 116, 117, 118, 119, 120, 122, 124, 129; Group C (comparative government and politics)—PSc 130, 131, 146, 168, 170, 173, 177, 179, 180, 181, 183; Group D (international politics, law, and organizations)—PSc 140, 142, 144, 149, 161, 175, 176, 178, 182, 184, 186.

Of the courses in Group A at least one must be PSc 101, 102, or 104, and it is recommended that this course be taken as early in the student's academic program as possible.

Every major must complete a proseminar or, if eligible, an Honors Seminar (PSc 196, 198, or 199) in the junior or senior year. A maximum of two of these may be included in the student's program; such courses do not satisfy the department's group distribution requirements. A 200-level course may be substituted for the proseminar requirement with the written permission of the instructor and the undergraduate coordinator.

The department also offers a major with a public policy focus. Students who wish to concentrate in public policy must distribute their 30 hours in political science as follows: PSc 104; 9 semester hours in policy-oriented courses to be selected from PSc 112, 117, 119, 124, 146; one policy-oriented proseminar; 3 additional semester hours from each of Groups A, B, C, D; and 3 semester hours in a political science elective at the 100 level.

Up to 12 hours of either service-learning or internship credit may be applied toward the degree. No more than 3 hours of such courses may be credited toward the major; these courses do not satisfy the distribution requirement.

Students in the 90-semester-hour degree program must receive grades of A in at least 10 semester hours of second-group political science courses.

Students may apply for graduation with Special Honors. To qualify, the student must fulfill the general requirements stated under Regulations and take at least one political science honors seminar in which an independent study project is completed with distinction. The student must complete the seminar before the final semester of course work. The project is evaluated by a Departmental Honors Committee, which can recommend graduation with Special Honors in political science. To be eligible for enrollment in an honors

seminar, students must be political science majors, have successfully completed PSc 101, and have achieved a quality-point index in the major of at least 3.3, and be juniors or seniors.

Minor in political science—Required: PSc 1 and 2 (or the equivalent) plus 15 semester hours of second-group political science courses, including a distribution requirement of one course from each of the four groups listed in item 3 above. A minimum of 9 semester hours of other social science courses is also required.

Master of Arts in the field of political science—Prerequisite: a bachelor's degree with a major in political science from an accredited college or university, or an equivalent degree, and high undergraduate scholastic standing.

Required: The general requirements stated under the Graduate School of Arts and Sciences and either (1) a reading knowledge of a modern foreign language or a specified level of knowledge in statistics, or (2) two graduate-level courses in a cognate discipline. Students may elect one of the following programs: (1) 24 semester hours of graduate course work, plus a thesis (equivalent to 6 semester hours), and the satisfactory completion of a Master's Comprehensive Examination in three subfields selected from those listed under the Ph.D. program; or (2) 33 semester hours of graduate course work without a thesis and the satisfactory completion of a Master's Comprehensive Examination in four subfields selected from those listed under the Ph.D. program.

All students must take one course chosen from PSc 200, 230, or 240 during the first semester of graduate study. The course selected must have the approval of the coordinator of graduate studies.

Doctor of Philosophy in the field of political science—Students of outstanding ability are admitted to the doctoral program upon recommendation of a departmental graduate committee and the concurrence of the dean of the Graduate School of Arts and Sciences.

Required: The general requirements stated under the Graduate School of Arts and Sciences. Each student must complete a General Examination, which covers a major and minor field of study.

PSc 200 and 201 are required of all students unless they demonstrate knowledge of the courses' subject matter by passing a waiver examination.

Each student must choose a major and minor field of study from five principal subject-matter divisions. Each subject-matter division has several subfields of study from which the student, in consultation with an advisor, constructs a program. A major field of study consists of three subfields; a minor field of study consists of two subfields.

The subject-matter divisions and their subfields are (1) theory (analysis of Western political thought, analysis of Marxist and Marxist-Leninist thought); (2) comparative and foreign politics (comparative political analysis, comparative communist systems, regional comparative politics, and domestic politics of a specified major political system); (3) international relations (international politics, international law, international organization, regional international relations, and foreign relations of a specified major political system); (4) American politics (American political process, national policy-making process, American constitutional law and judicial process, and state, local, and urban policy); and (5) public policy (methods of public policy analysis, science policy, domestic policy analysis, and national security policy). Quantitative political analysis may be used as a subfield in any of the subject-matter divisions.

Departmental prerequisite: PSc 1 and 2 (or the equivalent) are prerequisite to all second-group courses in political science.

1 Introduction to Comparative and International Politics (3)

Comparative and international political systems; emphasis on structures and processes of major foreign governments and the force of basic ideologies. (Fall and spring)

Sodaro, Feigenbaum,
Rogers, Brown

2 Introduction to American Politics and Government (3)

Structure, powers, and processes of the American political system and the impact on public policy. (Fall and spring)

Rycroft, Coleman, Larson, Deering

- 3-4 **Introduction to Political Behavior** (6-6)
 Role of personal and social values in political behavior. Fall: Focus on problems in the American liberal tradition. Spring: A comparative perspective on democratic and authoritarian governments in the 20th century. Admission by special selection process. (Academic year)
- 50 **Washington, D.C.: History, Culture, and Politics** (3)
 Same as AmCv/Hist/U&RP 50.
- 101 **Scope and Methods of Political Science** (3) Kim, Lebovic, Stoker, Wiley
 Nature of political inquiry, approaches to the study of politics and government, empirical methods of research. (Fall and spring)
- 102 **Empirical Political Analysis** (3) Wiley
 Extensive examination of empirical research methods in the analysis of political behavior. Research design, data collection (survey and aggregate), and data analysis. Prerequisite: PSc 101 or permission of instructor. (Spring)
- 103 **Political Communication Research** (3) Manheimer
 Same as PCm 103. Students may not receive credit for both PCm/PSc 103 and PSc 101.
- 104 **Methods of Public Policy Analysis** (3) Henig, Stoker
 Introductory overview of the concepts, issues, and techniques of systematic policy analysis and its role in the policy process. (Fall and spring)
- 105 **Political Theory: Major Issues of Western Political Thought I** (3) Linden
 Foundations of Western political thought—Plato to Aquinas. (Fall)
- 106 **Political Theory: Major Issues of Western Political Thought II** (3) Linden
 Theoretical roots of modern political order and disorder—Machiavelli to Rousseau. (Spring)
- 107 **Issues in Modern Political Thought** (3) Linden
 Issues of modern political thought as seen through major representative thinkers. Emphasis on conservative, liberal, and radical thought. (Fall and spring)
- 108 **Marxism-Leninism** (3) Elliot
 Intensive study of theories and philosophical assumptions of modern communism. Emphasis on Marx, Engels, and Lenin, and consideration of Bernstein, Rosa Luxemburg, Lukacs, Trotsky, and Stalin. (Spring)
- 110 **American Political Thought** (3) Morgan
 Political thought in the U.S. from colonial times to the present as seen through major representative writings. (Spring)
- 111 **State and Urban Politics** (3) Henig
 Comparative analysis of context, institutions, processes, and policies of state and urban political systems. (Fall)
- 112 **State and Urban Policy Problems** (3) Henig
 Selected issues in state and urban policy-making, with emphasis on urban and metropolitan settings. (Spring)
- 114 **U.S. Constitutional Law and Politics I** (3) Morgan
 Separation of powers, federal-state relationships, economic regulation.
- 115 **U.S. Constitutional Law and Politics II** (3) Morgan
 Political and civil rights. (Spring)
- 116 **The American Presidency** (3) Staff
 Examination of the politics of presidential selection, the authority of the contemporary institution, the mechanisms and processes for formulating public policy, and the influences of personality on performance in office. (Fall and spring)
- 117 **Public Administration and Bureaucratic Politics** (3) Ryckoff
 Basic concepts in public administration; influence of bureaucratic politics on policy formulation and implementation. (Fall)
- 118 **Legislative Politics** (3) Deering
 Theory, structure, and process of the U.S. Congress, with emphasis on elections, party organization, committees, and floor procedure, in the context of executive-legislative relations and interest-group activities. (Fall and spring)

- 119 **U.S. Political Parties and Politics** (3) LeBlanc
Role of parties as a linkage between mass preferences and government policies. Organization, nominations, voting, and activities in legislative and executive branches. (Fall and spring)
- 120 **Public Opinion and Political Socialization** (3) Wiley
Sources of mass political attitudes and behavior; voting and political campaigning. (Fall)
- 122 **Science, Technology, and Politics** (3) Logsdon, Rycroft
Multiple impacts of scientific and technological developments on the political systems. Discussion of public policies for support, use, and control of science and technology. (Fall and spring)
- 124 **Issues in Domestic Public Policy** (3) Deering, Stoker, Coleman
Examination of the decision-making process and the substance of various issues in domestic public policy in such areas as crime, economics, education, energy, the environment, poverty, and health. (Fall and spring)
- 128 **Governmental Processes and the News Media** (3) Staff
Same as Jour 128.
- 129 **TV News: The Politics of Visibility** (3) Larson
Examination of the impact of television on American politics and society, the nature of coverage of political issues and campaigns, the dynamics of selecting and presenting news stories. Same as Jour/Comm 129. (Fall and spring)
- 130 **Comparative Government and Politics I** (3) Feigenbaum, McClintock
Comparative political analysis with primary focus on the principal states of Western Europe. (Fall and spring)
- 131 **Comparative Government and Politics II** (3) Sodaro, Wolchik
Government and politics of the communist nations; emphasis on the Soviet Union and countries of Eastern Europe. (Fall and spring)
- 140 **International Politics** (3) Sodaro, Joyner, Lebovic, Brown
International actors, international and domestic environments of foreign policy, global and regional patterns, general characteristics of foreign policy. (Fall and spring)
- 142 **International Organizations** (3) Stambuk
Development and operations of the United Nations, regional organizations, and functional international organizations. (Fall and spring)
- 144 **Public International Law** (3) Joyner
Survey of international law, with emphasis upon law's conceptual development and practical application to contemporary international issues. (Fall and spring)
- 146 **U.S. Foreign Policy** (3) Sapin, Rogers
Constitutional, political, and international factors that determine the formulation, execution, and substance of U.S. foreign policy. (Fall and spring)
- 149 **Military Force and Foreign Policy** (3) Sapin, Lewis
Impact of military considerations on U.S. foreign policy; major problems in national security, e.g., strategic weaponry, military assistance, regional security problems. (Fall and spring)
- 161 **European-Atlantic Relations** (3) Stambuk
International politics of the North Atlantic area, the European Common Market, and U.S.-European relations. (Fall)
- 168 **Soviet Foreign Policy** (3) Elliott
Relations with the United States, Europe, the Third World, China; international communism; instruments of foreign policy; interrelationships between domestic and foreign policies; ideology and foreign policy. (Fall)
- 170 **Governments and Politics of China and Northeast Asia** (3) Hinton
Political institutions and processes of China (including Taiwan), Japan, and Korea since World War II. Influence of indigenous traditions and foreign contacts. (Fall, even years)

- 173 **Governments and Politics of South and Southeast Asia (3)**
Interaction of traditional, colonial, and contemporary influences in the domestic and international politics of the Indian subcontinent and of mainland and insular southeast Asia. (Fall, odd years)
- 175 **International Relations of East Asia (3)**
Analysis of the foreign policies of selected East Asian countries and the foreign policies of major powers toward the region. (Fall)
- 176 **The Arab-Israeli Conflict (3)**
Origins, evolution, and issues of the Arab-Israeli conflict. (Spring and summer)
- 177 **Governments and Politics of the Middle East (3)**
Politics of the eastern Arab states, Turkey, Iran, and Israel. (Fall)
- 178 **International Relations of the Middle East (3)**
Analysis of the regional and international relations of the Middle East. (Spring)
- 179 **Israeli Politics and Foreign Policy (3)**
Examination of the institutions, processes, and issues of Israeli politics and foreign policy. (Fall)
- 180 **Governments and Politics of North Africa (3)**
Domestic and international politics of Algeria, Tunisia, Morocco, Libya, Egypt, and Sudan; their relations with states of the Middle East. (Spring)
- 181 **Politics of Middle and Southern Africa (3)**
Comparative analysis of political systems in selected countries of non-Mediterranean Africa. (Fall)
- 182 **African International Politics (3)**
Analysis of interstate relations in Africa and of selected aspects of African relations with the outside world. Recommended prerequisite: PSc 181. (Spring)
- 183 **Governments and Politics of Latin America (3)**
Political processes and institutions of selected countries in South America, Central America, and the Caribbean. Emphasis on the possibilities for democracy and revolution. (Fall)
- 184 **International Relations of Latin America (3)**
U.S.-Latin American relations and foreign policies of selected states. (Spring)
- 186 **U.S. Policies Toward Sub-Saharan Africa (3)**
Analysis and evaluation of contemporary U.S. policies and policy-making toward selected areas and individual countries of sub-Saharan Africa: the Horn of Africa, East Africa, western Indian Ocean states, southern Africa, Zaire, Nigeria, and Ivory Coast. (Summer)
- 187 **Internship: Political Science (3)**
Study of political behavior through internship experience with Congress, executive departments or agencies, politically active private-sector groups, political parties, or electoral campaigns. Admission requires departmental approval. (Fall and spring)
- 190 **Selected Topics in Political Science (3)**
(Fall and spring)
- 192 **Proseminar: Political Science (3)**
Examination of selected problems in political science. Admission requires departmental approval. (Fall and spring)
- 196 **Honors Seminar: Political Theory (3)**
Research on selected topics. Prerequisite: PSc 101. Admission requires departmental approval.
- 197 **Honors Seminar: American Government and Politics (3)**
Research on selected topics. Admission requires departmental approval. Prerequisite: PSc 101.
- 198 **Honors Seminar: Comparative Government and Politics (3)**
Research on selected topics. Admission requires departmental approval. Prerequisite: PSc 101.

- 199 **Honors Seminar: International Politics** (3) Staff
Research on selected topics. Admission requires departmental approval. Prerequisite: PSc 101.
- 200 **Introduction to Political Analysis** (3) Wiley
Alternative approaches to political analysis, construction of research designs, and problems of measurement. (Fall and spring)
- 201 **Empirical Political Analysis** (3) Wiley
Techniques of social science data analysis, with emphasis on statistics and computer applications. PSc 200 or other previous introductory research training is highly desirable. (Spring)
- 202 **Advanced Topics in Empirical Political Analysis** (3) Wiley
Advanced techniques of data collection and analysis; varying emphasis on such methods as causal modeling, analysis of variance, regression analysis, and simulation. (Offered as the demand warrants)
- 203 **Approaches to Public Policy Analysis** (3) Stoker
Empirical and normative foundations of systematic policy analysis: concepts, theories, models, issues, strengths, limitations, and uses and misuses in the policy process. (Fall)
- 204 **Methods of Public Policy Analysis** (3) Stoker
Quantitative and qualitative techniques of systematic policy analysis, such as forecasting, cost-benefit analysis, simulation, operations research, social indicators, and quasi-experimental methods. Prerequisite: PSc 203 or equivalent. (Spring)
- 205 **Readings in Political Theory** (3) Linden
Selected major works, both ancient and modern, that illuminate basic problems and questions of political theory. (Fall)
- 206 **Topics in Political Theory** (3) Linden
Advanced readings and group discussions. Analysis and interpretation of selected concepts and schools of thought. (Spring)
- 207 **Readings in Socialism and Communism** (3) Elliott, Linden, Wolchik
Readings and discussions of works illuminating the development of pre- and post-Marxian socialist thought. (Fall)
- 208 **Readings in Marxism-Leninism** (3) Elliott, Linden
Readings and discussions in Marxism-Leninism and its controversies from Lenin to the present. (Spring)
- 209 **Politics and Public Policy** (3) Stoker, Henig
Examination of political processes that influence policy formulation, policy implementation, and the uses of policy analysis.
- 210 **American Political Process** (3) Deering
A survey of American political institutions, processes, and behavior. (Fall, even years)
- 211 **State and Urban Politics** (3) Henig
Comparative analysis of the context, institutions, processes, and policies of state and urban political systems. (Fall)
- 212 **State and Urban Policy Problems** (3) Henig
Analysis of public policy issues confronting state and urban governments; emphasis on the theoretical roots and empirical impact of past and present programs in such areas as housing, education, poverty, and crime. (Spring)
- 214 **Topics in Constitutional Law** (3) Morgan
Lectures and group discussions on constitutional law and politics.
- 215 **Judicial Policy-Making** (3) Morgan
Role of the judiciary in policy formulation; emphasis on the U.S. Supreme Court and civil liberties issues.
- 216 **American Presidency** (3) Staff
Personalized and institutionalized aspects of the presidency with particular emphasis on the politics of contemporary policy-making. (Spring)
- 217 **Bureaucratic Politics** (3) Rycroft
Structure and operation of governmental bureaucracy with particular emphasis on the politics of formulating and implementing public policy. (Spring)

- 218 **Legislative Politics** (3)
Theory, structure, and process of the U.S. Congress, with emphasis on member-constituency relations, individual and collective decision making, party and committee activities, executive-legislative relations, and interest group activities. (Fall, odd years)
- 219 **American Political Parties and Elections** (3)
Nature and functions of American political parties: organizational status, nominating and electoral politics, and role in governing.
- 220 **Public Opinion and Political Socialization** (3)
Sources and dynamics of public opinion and political socialization.
- 221 **Interest-Group Politics** (3)
Theory, structure, and activities of interest groups in American politics.
- 222 **Science, Technology, and Public Affairs** (3)
Introduction to the study of science, technology, and public policy; focus on policy issues that arise from interactions between scientific and technological developments and government activity. (Fall)
- 223 **Science, Technology, and Public Policy** (3)
Research and intensive analysis of selected policy issues with significant scientific or technological aspects. Prerequisite: PSc 222, 252. (Spring)
- 224 **Domestic Policy Analysis—Selected Topics** (3)
Analysis of U.S. policy toward selected domestic problems.
- 225 **Budgetary Policy** (3)
Analysis of selected topics in U.S. monetary and fiscal policy. Offered off campus only.
- 226 **Budgetary Politics** (3)
Examination of economic policy-making in the United States, with emphasis on major participants and the budget process. Offered off campus only.
- 227 **Electoral Laws and Financial Practices** (3)
State statutes; registration and filing procedures; federal campaign finance legislation, compliance procedures, and enforcement.
- 228 **Media and Politics** (3)
Role of the media in American politics, with emphasis on television news coverage, political debates, political advertising, and their impact on the electorate.
- 230 **Comparative Government and Politics I** (3) Kim, McClintock, Feigenbaum
Examination of basic approaches to comparative politics. (Fall)
- 231 **Comparative Government and Politics II** (3) Kim, McClintock, Feigenbaum
Comprehensive examination of specific issue areas in comparative politics analysis. (Spring)
- 232 **Comparative Communist Systems I** (3)
Comparative analysis of the political history and contemporary political processes of communist states, with emphasis on the Soviet Union and Eastern Europe. Same as Hist 232. (Fall)
- 233 **Comparative Communist Systems II** (3)
Comparative analysis of the political history and contemporary political processes of communist states, with emphasis on China and Cuba, and non-ruling communist parties. Same as Hist 233. (Spring)
- 234 **Comparative Legislative Systems** (3)
Selected problems of legislative theory and behavior from a comparative perspective, with particular reference to the parliamentary systems of West Germany, France, and Britain. Offered off campus only.
- 238 **U.S. Foreign Economic Policy** (3)
Exploration of ideas and issues involved in U.S. foreign economic policy, including relationship of economic and security issues, interdependence, protectionism, role of the dollar, industrial policy, and the debt crisis. (Fall)
- 239 **U.S. Foreign Economic Policy-Making** (3)
Research seminar focusing on domestic interests and the policy process in U.S. foreign economic policy-making, including business, labor, and public interest groups, the interagency process, and the role of the President. (Spring)

- 240 **Theories of International Politics I** (3) Nimer, Lebovic, East
Critical examination of contemporary theories, both empirical and normative,
with emphasis on actor theory. (Fall)
- 241 **Theories of International Politics II** (3) Nimer, Lebovic, East
Critical examination of contemporary theories, both empirical and normative,
with emphasis on interaction theory. (Spring)
- 242 **Problems in International Organizations I** (3) Stambuk
Collective security, law, and the politics of international organizations. (Fall)
- 243 **Problems in International Organizations II** (3) Stambuk
Social and economic interdependence and the politics of international
organizations. (Spring)
- 244 **International Law I** (3) Joyner
The sources and development of international law, with special attention given
to current trends and future problems. (Fall)
- 245 **International Law II** (3) Joyner
Critical examination of selected contemporary problems of world order, e.g., legal
issues involving global resource regimes, war, economic development, and
human rights. (Spring)
- 246 **U.S. Foreign Policy-Making** (3) Sapin, Rogers
Patterns and problems in contemporary U.S. foreign policy-making. Attention to
domestic political factors as well as relevant institutions and agencies. (Fall)
- 247 **U.S. Foreign Policy** (3) Sapin, Rogers
The substance of contemporary U.S. foreign policy: major problems, concepts,
and lines of development since World War II. (Spring)
- 248 **U.S. National Security Policy-Making** (3) Sapin, Lewis, Rogers
Executive organization and processes for national security policy-making. Atten-
tion to relevant theoretical approaches. (Fall)
- 249 **U.S. National Security Policy** (3) Sapin, Lewis, Rogers
Fundamental considerations; selected issues, e.g., arms control and disarma-
ment, regional security problems, military assistance. (Spring)
- 250 **Foreign Policy Analysis—Selected Topics** (3) Staff
Analysis of U.S. foreign policy toward selected world regions.
- 252 **Science, Technology, and International Affairs** (3) Nau
Exploration of implications of technological change for international politics and
influence of foreign policy interests on international technological development.
(Spring)
- 257 **Arms Control and Disarmament** (3) Staff
Major issues and trends in the postwar development of U.S. arms control and
disarmament policy. (Spring)
- 258 **Communist Party of the Soviet Union** (3) Sodaro
Analysis of the internal evolution of the Communist Party and its role in the
Soviet system from its origins to the present day. Same as Hist 258. (Spring)
- 260 **Western European Politics** (3) Feigenbaum
Examination of the principal characteristics of the British, French, West German,
and Italian political systems, comparing their institutional and behavioral adap-
tations to the problems of advanced industrial democracies. (Fall)
- 261 **Politics of the European Community** (3) Stambuk
Problems in Western European politics, with emphasis on supranational politi-
cal processes and selected policy outcomes in the context of the European
Common Market. (Spring)
- 262 **The Political Economy of Western Europe** (3) Feigenbaum
An examination of the relationships between economic interests and politics as
they affect the societies of Western Europe. Selected issues of public policy are
discussed. (Spring)
- 263 **The Soviet Union and Europe** (3) Sodaro
Soviet foreign policy toward Western and Eastern Europe, including its economic
and military dimensions. (Fall)

- 264 **Governments and Politics of Eastern Europe** (3)
Comparative analysis of domestic political processes and policies in Eastern Europe. (Fall)
- 265 **The International Politics of Eastern Europe** (3)
Major historical, political, social, and regional factors that have shaped the interwar, World War II, and postwar evolution of Eastern Europe; emphasis on foreign relations with outside powers and on regional East-West contacts. (Spring)
- 266 **Readings in Soviet Government and Politics** (3)
Readings in contemporary Soviet domestic government and politics. Elliott, Linden. (Fall)
- 267 **Soviet Government and Politics** (3)
Research seminar in selected problems of Soviet domestic government and politics. Emphasis: since Stalin. Prerequisite: PSc 266 or permission of instructor. Elliott, Linden, Reddaway. (Fall)
- 268 **Soviet Foreign Policy** (3)
External problems and policies of the U.S.S.R., with emphasis on the period since Khrushchev. Relations with communist states, Western powers, Third World countries, and nonruling communist parties. (Spring)
- 269 **Soviet Military Policy and Strategy** (3)
Developments in Soviet military policy and strategy. Emphasis on party-military relations, the decision-making process, manpower problems, structure of the Soviet armed forces, and the external role of the Soviet military. (Fall and spring)
- 270 **Politics of the People's Republic of China I** (3)
Introduction to the substance of and literature on contemporary Chinese politics. Discussion and reading. (Fall)
- 271 **Politics of the People's Republic of China II** (3)
Research seminar. Introduction to the analysis of official Chinese documents and other primary materials. Presentation of student papers. Prerequisite: PSc 270 or equivalent. (Spring, even years)
- 272 **Foreign Policy of the People's Republic of China** (3)
Objectives; formulation and implementation; the People's Republic of China as Asian state, revolutionary influence, would-be great power. (Spring)
- 274 **Governments and Politics of Japan and Korea** (3)
Readings and research on the domestic and foreign policies of Japan and South Korea. (Fall or spring)
- 275 **International Politics of East Asia** (3)
Foreign policies and international behavior of the regional states (especially China, Japan, and Vietnam) and the extraregional powers (especially the U.S.S.R.). (Spring, odd years)
- 276 **The Arab-Israeli Conflict** (3)
Readings and research on the origins, evolution, and issues of the Arab-Israeli conflict. (Spring)
- 277 **Governments and Politics of the Middle East** (3)
Readings and research on selected problems of the governments and politics of the Middle East. (Fall)
- 278 **International Relations of the Middle East** (3)
Readings and research on the regional and international relations of the Middle East. (Spring)
- 279 **The Powers in the Middle East** (3)
The role of the powers in the Middle East, with emphasis on the policies of the United States and the Soviet Union. Consideration is given to other major European and Asian powers. (Fall)
- 280 **Governments and Politics of North Africa** (3)
Readings and research on selected problems in the governments, politics, and international relations of North Africa. (Fall)
- 281 **Topics in African Politics** (3)
Readings, research, and discussion of selected aspects of African domestic and international politics. (Fall)

- 283 **Governments and Politics of Latin America** (3) McClintock
Readings and discussion on the politics of selected countries in South America, Central America, and the Caribbean. Emphasis on the possibilities for democracy and revolution. (Fall)
- 284 **International Relations of Latin America** (3) McClintock
Readings and discussion on U.S.-Latin American relations and the foreign policies of selected states. (Spring)
- 286 **Selected Topics in American Politics** (3) Staff
Readings and discussion. (Fall or spring)
- 287 **Selected Topics in Political Theory** (3) Staff
Readings and discussion. (Fall or spring)
- 288 **Selected Topics in Comparative Politics** (3) Staff
Readings and discussion. (Fall or spring)
- 289 **Selected Topics in International Politics** (3) Staff
Readings and discussion. (Fall or spring)
- 297 **Reading** (3) Staff
Limited to master's degree candidates. Written permission of instructor required. (Fall and spring)
- 298 **Research** (3) Staff
Limited to master's degree candidates. Written permission of instructor required. (Fall and spring)
- 299-300 **Thesis Research** (3-3) Staff
- 301 **Advanced Reading and Research in Political Theory** (3) Staff
- 310 **Advanced Reading and Research in American Politics** (3) Staff
- 340 **Advanced Reading and Research in Comparative Politics** (3) Staff
- 350 **Advanced Reading and Research in International Politics** (3) Staff
- 397 **Advanced Reading** (3) Staff
Limited to students preparing for the Doctor of Philosophy general examination. May be repeated for credit. (Fall and spring)
- 398 **Advanced Research** (arr.) Staff
Limited to students preparing for the Doctor of Philosophy general examination. May be repeated for credit. (Fall and spring)
- 399 **Dissertation Research** (arr.) Staff
Limited to Doctor of Philosophy candidates. May be repeated for credit. (Fall and spring)

PORTUGUESE

See Romance Languages and Literatures.

PSYCHOLOGY

Professors J.N. Mosél (Emeritus), R.D. Walk, A.D. Kirsch, V. Kirkbride (Emeritus), C.E. Rice, E. Abravanel, D.E. Silber, J. Miller, L.A. Rothblat, R.A. Peterson, J. Zeidner (Research), H. Weingartner, R.D. Caplan

Professorial Lecturers R.K. Kahn, M. Sashkin, J.C. Sharf, R.W. Swezey

Associate Professors S.A. Karp, R.W. Holmstrom, P.J. Poppen (Chair), L. Brandt, S. Hashtroudi, L.R. Offermann, P. Wirtz

Assistant Professors C.A. Rohrbeck, F.Z. Belgrave, M.L. Jasnoski

Lecturer P.J. Woodruff

Clinical Training Staff

Clinical Professors J. Borriello, D.E. Holmes

Associate Clinical Professors E. Blum, D.A. Jensen, M.E. Zedek, E.J. Jordan

Assistant Clinical Professors D.M. DePalma, M. Harris, P.L. Ellman, M.D. Jasnow, K.R. Miller, L.E. Moldauer, C.E. Parks, W.L. Scarpetti

Bachelor of Arts with a major in psychology (departmental)—The following requirements must be fulfilled:

1. The general requirements stated under *Columbian College of Arts and Sciences*.
2. Prerequisite course—Psyc 1.
3. Required courses in related areas:
 - (a) Stat 53 or equivalent. Students are encouraged to take a second statistics course to meet the general curriculum requirement in quantitative and/or logical reasoning.
 - (b) 9 semester hours selected from American civilization, anthropology, economics, geography and regional science, history, philosophy (Phil 71, 113, or 151 recommended), political science, or sociology, of which 6 hours must be from anthropology, economics, history, political science, or sociology. If a student takes more than 6 hours in any one department, the excess will be credited to electives.
4. Required courses in the major—34 semester hours in second-group psychology courses, including three survey courses (Psyc 101, 102, and 103); principles and methods of research (Psyc 105 or 106); experimental (Psyc 118 or 121); history and systems (Psyc 196); and five additional second-group courses.

It is recommended that students contact their academic advisors as soon as possible for assistance in planning their programs of study.

To qualify for graduation with Special Honors the student must fulfill the general requirements stated under Regulations, take an honors seminar (Psyc 197) or a 200-level seminar, and complete an independent study project (Psyc 191) with distinction. The grade point average in psychology required for graduation with Special Honors is 3.5.

Bachelor of Arts/Master of Arts in the field of art therapy—A five-year program leading to the B.A. in the field of fine arts or psychology and the M.A. in the field of art therapy. See Art Therapy.

Minor in psychology—18 semester hours are required, including Psyc 1 and at least 17 semester hours of second-group psychology courses. Students considering graduate study in psychology are advised to take Psyc 105 or 106, a distribution of courses from the categories listed under the major above, Psyc 196, and an elementary course in statistics.

Master of Arts in the field of psychology—Prerequisite: the degree of Bachelor of Arts with a major in psychology at this University, or an equivalent degree. Admission to the program is limited; preference will be given those who plan to continue toward a Doctor of Philosophy degree.

Required: the general requirements stated under the Graduate School of Arts and Sciences. Of the 24 required semester hours (exclusive of the thesis), a minimum of 18 must be in third-group psychology courses, including Psyc 201 or 202 and 203 or 204; 6 semester hours may be in related fields approved by the department. For detailed requirements consult the chair of the doctoral program committee.

Doctor of Philosophy in the field of psychology—Prerequisite: the degree of Bachelor of Arts with a major in psychology. Students admitted from other disciplines will be expected to complete prerequisite undergraduate courses to prepare for graduate study in psychology.

Required: the general requirements stated under the Graduate School of Arts and Sciences, including (1) Psyc 201–2, 203–4, and appropriate statistics courses; and (2) the satisfactory completion of a first-year examination and the General Examination in the major area of study. For detailed requirements, consult the chair of the department or the chair of the doctoral program committee.

Areas of study: clinical, developmental, cognitive, industrial and organizational, and applied social psychology and neuropsychology.

Departmental prerequisite: Psyc 1 is prerequisite to all other courses in psychology. The departmental prerequisite may be waived with the permission of the instructor.

First Group

1 General Psychology (3)

Fundamental principles underlying human behavior.

(Fall and spring)

- 8 **Psychology of Motivation and Personality** (3) Staff
Introduction to the psychology of personality. Principles of motivation, personality development, social and cultural factors, and assessment and description of personality emphasized. (Fall and spring)
- 22 **Introduction to Educational Psychology** (3) Kirkbride
The contributions of psychology to education; emphasis on learning. Includes fieldwork. (Spring)

Second Group

- 101 **Abnormal Psychology** (3) Rohrbeck, Silber, Holmstrom, Weingartner
Causes, diagnosis, treatment, and theories of various types of maladjustments and mental disorders. (Fall and spring)
- 102 **Social Psychology** (3) Belgrave
(Formerly Psyc 151)
Social foundations of behavior: cognition, motivation, role behavior, communication, small-group processes, and attitudes. (Fall and spring)
- 103 **Psychology of Childhood** (3) Brandt, Rohrbeck
(Formerly Psyc 111)
Developmental approach to study of the child. Emphasis on the socialization process, learning, and the child's view of the world.
- 104 **Ecology and Mental Health** (3) Karp
Examination by field research of the linkages between aspects of the physical environment and mental health. Tutorials, conferences, and student field research projects. (Fall)
- 105-6 **Principles and Methods of Psychology** (4-4) Walk, Hashtroudi
(Formerly Psyc 5-6)
Lecture (3 hours), laboratory (3 hours). An experimental approach to understanding behavior; individual and class experiments performed. Psyc 5: sensation, perception, and emotions and their relation to adaptive behavior. Psyc 6: memory, human information processing, learning, and motivation. Laboratory fee, \$30 per semester. (Academic year)
- 108 **Humanistic Psychology** (3) Staff
Critical examination of humanistic psychology. Emphasis on role of consciousness in human behavior. Philosophic foundations, existential, phenomenological, and transpersonal psychology. (Spring)
- 110 **Perception and Understanding in Children** (3) Abravanel
Concepts and research in the area of developmental psychology; emphasis on the growth and development of thinking, perceiving, and symbolic activity. (Spring)
- 112 **Psychology of Adolescence** (3) Staff
Psychological characteristics and problems peculiar to adolescence, with emphasis on application of psychology to solution of such problems. (Fall or spring)
- 115 **Psychology of Language and Communication** (3) Staff
Introduction to psycholinguistics and verbal behavior. Information theory, generative grammar theory, cultural and linguistic structures in perception and neuro-linguistics programming. (Fall)
- 118 **Neuropsychology** (3) Rothblat
Analysis of neural processes underlying behavior. Basic structure and functions of the nervous system, with emphasis on sensory processes, learning and memory, motivation, and emotion. (Fall and spring)
- 119 **Group Dynamics** (3) Miller
Relationship of the individual to groups, collectivities, and larger social systems. Theory, research, and applications of group and organizational processes, emphasizing contributions of Freud, Bion, Slater, Miller and Rice. Opportunity is provided to attend a group dynamics workshop, which is recommended but not required. Enrollment limited. (Spring)

- 121 **Psychology of Learning** (3)
Theories and issues related to basic learning processes as determinants of behavior. Emphasis on current research using both human and animal subjects. (Fall)
- 122 **Psychology and Human Relations** (3)
Understanding human relations and T-group techniques by evolving an on-going T-group within the course itself. For junior and senior undergraduate social science majors; open to others with permission of instructor. (Summer)
- 128 **Health Psychology** (3) Jasnoski, Belgrave, Peterson, Poppen
Current research in the area of health psychology, with special attention to psychological factors related to health and illness, psychological intervention with medical patients, and psychological approaches to illness prevention and health promotion.
- 129 **Theories of Personality** (3) Poppen, Rice, Jasnoski
Survey of personality theories; emphasis on their application to problems of individuals. (Fall and spring)
- 130 **Seminar: Political and Social Implications of Current Approaches to Psychological Treatment** (3)
Presentation and discussion of recent work, such as that of Szasz and Goffman, bearing upon the implications for individuals and society of various approaches to psychological treatment, including psychotherapy and behavior modification. (Fall)
- 131 **Psychological Tests** (3) Holmstrom
Survey of psychological tests and their more common uses in business, industry, government, law, medicine, and education. Material fee, \$25. (Fall and spring)
- 132 **Socialization in Childhood** (3)
Examination of primary methods by which the child is shaped in terms of social judgment and self-control; internalization of controls, assimilation of social values and parenting procedures. Organized by focus on issues according to developmental level.
- 135 **Freud and Modern Psychoanalysis** (3)
Introduction to the work of Freud and his impact on modern psychoanalysis, focusing on the meaning of dreams and the unconscious function of conflict, defense, infantile sexuality and the Oedipus conflict, development of the theory of anxiety and neurosis, and the death instinct. (Spring)
- 144 **Industrial/Organizational Psychology** (3) Offermann, Caplan
Psychological concepts and methods applied to problems of personnel management, employee motivation and productivity, supervisory leadership, and organizational development. (Fall and spring)
- 150 **Psychology of Sex Differences** (3)
Relevant biological, psychological, and sociological influences on males and females in the development of sex differences; hormonal differences, gender identity, differential socialization of sons and daughters, masculinity/femininity, cultural evaluation of male and female roles. Survey of relevant psychological theory. Emphasis on empirical research and hypothesis testing.
- 154 **Psychology of Crime and Violence** (3)
Examination of many psychological aspects of criminal behavior; personality of criminals and of psychological processes affecting behavior. (Spring)
- 156 **Psychology of Attitudes and Public Opinion** (3)
Psychology of opinion formation, measurement of opinion, social determinants of attitudes, psychological processes in propaganda, bases of receptivity to propaganda, psychological warfare.
- 170 **Clinical Psychology** (3)
An exploration of the history, functions, and problems of the clinical psychologist. Assessment, treatment, community approaches, ethics. Prerequisite: PSY 101, 131.
- 188 **Attitudes Toward Death and Dying** (3)
Exploration of the many different aspects, attitudes, and experiences associated with the process of death and dying. Limited to juniors and seniors.

- 191 **Independent Research in Psychology** (3) Staff
Opportunity for work on individual library or experimental projects. Open to qualified students by permission; arrangements must be made with the sponsoring faculty member prior to registration. May be repeated once for credit. (Fall and spring)
- 192 **Field Experience in Psychology** (3) Abravanel
Senior psychology majors will spend a minimum of six hours a week in a local mental health, rehabilitation, school, or community setting. Students registering for this course must have blocks of time available in their class schedules. (Fall and spring)
- 196 **History and Systems of Psychology** (3) Rice, Walk
Senior capstone course that includes a survey and integration of the major viewpoints and concepts of psychology. Required of psychology majors. (Fall and spring)
- 197 **Honors Seminar in Psychology** (3) Staff
Selected topics in psychology that change from semester to semester. Intended primarily for juniors who plan to enroll in Psyc 191 in the senior year and for students in the Special Honors program in psychology. May be repeated for credit.
- 198 **Current Research Issues in Psychology** (3) Staff
Conducted as a seminar. Recent experiments in psychology, including those performed by members of the class; emphasis on student participation. May be repeated for credit.

Third Group

Third-group courses are limited to graduate students in psychology, except by special permission of instructor.

- 201-2 **Psychological Research Methods and Procedures** (3-3) Staff
Required in all graduate psychology programs. Includes philosophy of science, types of research design, and methods of data collection. Prerequisite: graduate standing, a laboratory course in psychology, and an elementary course in statistics. (Academic year)
- 203-4 **Experimental Foundations of Psychology** (3-3) Hashtroudi, Rothblat, and Staff
Required of doctoral students in psychology during first year of study. Psyc 203: Basic issues in learning and memory. Psyc 204: Physiological processes; sensation and perception. (Academic year)
- 207-8 **Psychological Assessment** (3-3) Holmstrom, Silber
Open only to clinical graduate students in the Department of Psychology. Theoretical and clinical aspects of assessment; includes interviewing, psychometric tests, and projective techniques. Two-hour laboratory—diagnostic work at clinical facilities. Material fee, \$30 per semester. (Academic year)
- 209 **Seminar: Psychology of Motivation** (3) Staff
Various theoretical approaches to the psychology of motivation; systematic concepts and experimental findings deriving from each approach. (Spring)
- 211 **Assessment of Cognitive Functioning** (3) Staff
Concepts of intelligence and achievement and their assessment through a variety of individual procedures. Material fee, \$30. Admission by permission of instructor. (Summer)
- 212 **Personality Assessment by Projective Techniques** (3) Staff
Personality assessment: Rorschach, TAT, and other apperception methods. Material fee, \$25. Admission by permission of instructor. (Summer)
- 213-14 **Seminar: Developmental Psychology** (3-3) Abravanel, Brandt
Psyc 213: research and theory in developmental psychology, with emphasis on cognitive, perceptual, and language functioning development. Psyc 214: current research and theoretical issues in cognitive and social development in infancy and the social bases of communication and language. (Academic year)

- 215 **Psychodynamic Approaches to Child Assessment and Therapy** (3)
A broad range of issues in child personality development will be considered with special focus on drives, interpersonal relations, defenses, intellectual capacities, and moral development. Admission by permission of instructor. Material fee, \$25. (Fall)
- 216 **Psychological Assessment by Graphic Means** (3)
Examination of graphic procedures for assessment of intelligence and personality; clinical use and evidence of validity. Common interpretive principles sought. Human figure drawings and free paintings as examples. Admission by permission of instructor. (Fall)
- 218 **Seminar: Systems of Psychotherapy** (3)
Introduction to theory and technique of psychotherapeutic approaches: psychoanalytic, ego centered, nondirective, transactional, and others. Original sources surveyed. (Fall and summer)
- 219 **Group Dynamics** (3)
Relationship of the individual to groups, collectivities, and larger social systems. Theory, research, and applications of group and organizational processes, emphasizing contributions of Freud, Bion, Slater, Miller and Rice. Opportunity provided to attend a group dynamics workshop, which is recommended but not required. Enrollment limited.
- 220 **Seminar: Abnormal Psychology** (3)
Study of selected problems of psychopathology. (Fall)
- 221-22 **Seminar: Group Psychotherapy** (3-3)
For graduate students in the clinical psychology program. Open to others if space permits and with permission of instructor. Psyc 221: Survey of group therapy approaches; Psyc 222: Supervised experience with therapeutic groups. Prerequisite: Psyc 219. (Alternate academic years)
- 223 **Seminar: Human Memory** (3)
Selected topics of current research interest in the area of human memory with emphasis on encoding and retrieval processes, amnesia, and disorders of memory. (Spring)
- 225 **Behavioral Approaches to Child Assessment and Therapy** (3)
Child assessment and treatment from a behavioral viewpoint. The applications of conditioning, reinforcement, and shaping principles with reference to specific disorders of childhood.
- 226 **Seminar: Clinical Psychology of Childhood and Adolescence** (3)
For graduate students in psychology; open to others with permission of instructor. Exploration of major topics concerning psychopathology in children and adolescents; discussion of nosological issues with emphasis on theoretical and research literature.
- 227-28 **Seminar: Principles of Psychotherapy** (3-3)
For graduate students in clinical psychology; open to others with permission of instructor, if space permits. Patient's needs and demands on the therapist's participation heavily relied upon. Prerequisite: Psyc 218. (Academic years)
- 229 **Seminar: Principles of Behavior Change** (3)
Behavioral learning methods and theory applied to clinical problems.
- 230 **Methods in Applied Behavior Analysis** (3)
Methodology used in clinical behavioral research and other areas, using a small number of subjects. Research designs and data collection techniques are emphasized. (Fall)
- 231 **Development of Psychometric Instruments** (3)
Quantitative techniques and principles used in construction, standardization, and evaluation of personality and ability measures for research and practical purposes. Quantification of human judgment for measurement purposes. Prerequisite: course in tests and measurements and an elementary course in statistics. (Fall)
- 232 **Ego Psychology and Theories of Object Relations** (3)
Emphasis on theoretical contributions of Freud, Hartmann, Klein, Kohut, and others. Assessment and treatment are addressed, primarily

reference to investigations of borderline and characterological disorders.
(Spring)

- 234 **Seminar: Theory of Psychological Measurement** (3) Staff
Examination of classical test theory (which underlies most current test construction and interpretation) and the newly emerging area of item-response theory. Recent developments in validity generalization. (Spring—alternate years)
- 235 **Seminar: Community Psychology** (3) Rohrbeck
For graduate students in the Department of Psychology; open to others, with permission of instructor, only if space permits. Survey of issues and techniques in community psychology; emphasis on educational systems and community psychology issues.
- 236 **Seminar: Minorities and Mental Health** (3) Staff
Factors affecting the mental health of minorities. Treatment considerations and differences in theoretical approaches with respect to minorities. (Spring)
- 237–38 **The Practice of General Psychology** (3–3) Staff
Application of psychological principles and findings to a wide spectrum of human problems. Professional issues facing the psychologist offering services. Participation in the development, implementation, and evaluation of applied psychological services and projects. (Academic year)
- 240 **Seminar: Selected Topics in Psychopathology** (3) Silber
Examination of current research and theory in psychopathology. (Spring)
- 241–42 **Family Systems: Theory, Practice, and Research** (3–3) Staff
Family dynamics and their implications for assessment and treatment. Special emphasis on the role of research in the process of evaluation of family systems and family therapy. Enrollment limited to advanced doctoral students in clinical psychology. (Academic year)
- 243 **Psychoanalytic Theory and Research** (3) Miller
An introduction to classical and modern psychoanalytic theory and research. A review of Freud's central works, focusing on his case studies and their role in theory development. Emphasis on instinct theory, with comparisons to contemporary studies of dreams, infant observation, male and female personality development, psychopathology, and related topics.
- 244 **Theories and Processes of Organizational Management** (3) Staff
Basic functions and techniques of organizational management—design, control, direction, and decision making—examined from the viewpoint of behavioral science.
- 245 **Seminar: Organizational Behavior** (3) Offermann
Analysis of organizational behavior; emphasis on motivation and productivity. Recent research on employee attitudes, primary group, supervisory leadership, formal and informal organization, job design. (Fall)
- 246 **Seminar: Personnel Evaluation Techniques** (3) Sharf
Techniques of personnel selection and performance evaluation. Employment tests, personal data, assessment interviews, performance ratings, and assessment centers. Consideration of federal guidelines in employee selection. Includes practicum.
- 247 **Seminar: Psychology of Leadership in Organizations** (3) Offermann
Theories and issues related to the emergence and effectiveness of leaders, with focus on leadership behaviors and processes in organizations.
- 248 **Organizational Behavior Research Applied to Organizational Intervention and Change** (3) Staff
Emphasis on development of models of organizational effectiveness; design of valid diagnostic instruments; implementation of research strategies; establishment of program-evaluation criteria. (Fall)
- 249 **Organizational Behavior Modification** (3) Staff
Application of operant reinforcement, behavioral systems analysis, and other experimentally derived procedures, such as goal setting and feedback, to improving individual and group work performance. New approaches to intrinsic job motivation based on covert reinforcement principles. (Spring—alternate years)

250 Human Resources Management (3)

An examination within a psychological systems perspective of the requirements for integrating employee assessment, placement, training, and motivation modules into a unified human resources development program. Emphasis on models and techniques of organizational development and the utilization of key organizational factors to determine content of the program.

253 Attitudes and Social Cognition (3)

Social psychology theories, conceptual approaches, and their applications. Attitude formation and change, social cognition, person perception, attribution, information processing, attraction, stereotyping.

254 Social Influence (3)

Social psychology theories, conceptual approaches, and their applications. Analysis of intentional and unintentional social influence processes and their effects on behavior. Current research on conformity, social power, social exchange, and impression management.

255 Applied Research Methods: Research Design (3)

Analysis of problems in research design in basic and applied social psychology and research. Focus on conceptualization, operationalization of variables, experimental and quasi-experimental design. (Fall)

256 Applied Research Methods: Data Collection and Analysis (3)

Methods of data collection and analysis, especially in field settings and surveys with nonexperimental designs. Topics include methods of obtaining information (questionnaires, interviews, records); creation of indicators; exploratory analysis of large-scale data bases; analysis and interpretation of data when research units have not been randomly assigned to treatments. (Spring)

257 Current Topics in Social Psychology (3)

Advanced seminar with focus on major theoretical approaches, research problem areas within field of social psychology. Topic changes each semester. (Fall and spring)

260 Psychology of Work Group Development (3)

Examination of theory and research on groups as task performance systems. Approaches to team development as a means of improving work group effectiveness, including goal setting, role clarification, increasing interpersonal skills, and conflict resolution. (Spring)

263 Evaluation Research (3)

Research issues and methods in evaluating the impact of organizational social intervention and service programs. Specification of program goals and effectiveness criteria; measurement problems; experimental and quasi-experimental designs; political problems surrounding evaluation research. (Spring, even years)

268 Seminar: Neuropsychology (3)

Selected problems in research relating the brain and behavior. Independent topics each semester, such as sensory processing, brain development and behavior, clinical aspects of nervous system function.

272 Seminar: Theories of Personality (3)

Emphasis on theoretical problems and methodology in the field of personality study. (Fall, odd years)

277 Health Psychology (3)

Social and psychological theories and research that relate to health and illness. Application of theories of social learning, attribution, attitude change, and social influence to topics such as health promotion and disease prevention, health compliance, and coping with illness and disability.

278 Behavioral Medicine (3)

The psychological causes, outcomes, and treatments for a wide variety of medical illnesses. Examination of research on the effectiveness of programs designed to promote health, to encourage compliance, and to foster lifestyle changes.

- 279 **Special Topics in Health Psychology** (3) Staff
A comprehensive review of a special topic area within health psychology. Topics change each semester. May be repeated for credit. Admission by permission of instructor.
- 281 **Clinical Neuropsychology I** (3) Rothblat
Analysis of experimental and clinical findings from studies attempting to localize and interpret human brain dysfunction, with emphasis on perceptual and cognitive behavior. Topics include overviews of neuroanatomy and neurological techniques, clinical description and theoretical consideration of major neuropsychological disorders, mechanisms underlying recovery of function and potential for rehabilitation. Graduate students in fields other than psychology admitted by permission of the instructor.
- 282 **Clinical Neuropsychology II** (3) Staff
Examination of important psychological procedures for the assessment of human brain dysfunction. Instruments and batteries such as the Bender-Gestalt, Wechsler Adult Intelligence Scale, Halstead-Reitan Neuropsychological Battery, and Luria's Neuropsychological Tests. Prerequisite: Psyc 211, 212, 281, and permission of the instructor.
- 289 **Seminar: Current Topics in Experimental Psychology** (3) Staff
Review and discussion of contemporary research and theory in a specialized field of psychological study, by leaders in the field. Independent topics each semester; may be repeated for credit. (Fall and spring)
- 290 **Seminar: Macro-organizational Behavior** (3) Rice
Examination of variables characterizing the total organization as the unit of analysis; the relationship of such variables to the behavior of the individual. Complexity, power, and conflict will be considered, along with contextual dimensions such as organizational environment. (Fall, odd years)
- 291 **Theories of Organizational Behavior** (3) Caplan
Examination of current theoretical models and research. (Spring)
- 292 **Seminar: Perception** (3) Walk
Study of current research and theory in the experimental psychology of perception and perceptual development. (Spring)
- 295 **Independent Research in Psychology** (3) Staff
Individual library or experimental research under supervision of staff member. Arrangements must be made with sponsoring faculty member prior to registration. May be repeated for credit. (Fall and spring)
- 299-300 **Thesis Research** (3-3) Staff
(Fall and spring)
- Fourth Group**
- 398 **Advanced Reading and Research** (arr.) Staff
Limited to students preparing for the Doctor of Philosophy major field examination. May be repeated for credit. (Fall and spring)
- 399 **Dissertation Research** (arr.) Staff
Limited to Doctor of Philosophy candidates. May be repeated for credit. (Fall and spring)

PUBLIC ADMINISTRATION—GRADUATE PROGRAMS

Professors S.R. Chitwood, M.M. Harmon, S.J. Tolchin, W.C. Adams, B.L. Catron, C.F. Bingman (Visiting), S.J. Trachtenberg, G.H. Honadle (Visiting), K.E. Newcomer (Chair)
Professorial Lecturers H.M. West III, B.T. Pitsvada
Associate Professors J.F. Kasle, J.E. Kee, C.J. McSwain, H.L. Ernstthal

See the School of Government and Business Administration for programs of study in Public Administration leading to the degrees of Master of Public Administration and Doctor of Philosophy.

Second Group**125 Managing Public Policy (3)**

Contemporary concepts and issues in public administration and management. Major trends and approaches to governmental administration in the U.S., including the changing federal role, roles of the public sector in relation to the private sector, and managing public agencies at all levels. (Fall and spring) Newcomer, Kasle, Ke

Third Group**205 Introduction to Public Administration and Management (3)**

Provides frame of reference for study of public administration. Historical development, contemporary approaches, roles of the public manager. Ethics and norms, administrative responsibility and public interest. Management in the public sector. (Fall and spring) Chitwood, McSw

208 Ethics and Public Values (3)

Ethical dimensions of personal and professional judgments of public officials. Cases are used to consider the ethos of public organizations and the moral foundations of public policy. (Fall) Carro

212 Legislative Management: Congress and Its Functions (3)

Analysis of Congress as a management system; examination of its internal administration and its role in formulating policy through legislation. Executive-legislative relationships, staffing practices, budget processes, leadership, rules and procedures, oversight functions, and the management of foreign policy examined. (Fall) Tolchin, Kas

213 Administration in the Federal Government (3)

Critical analysis of the structure and administration of the federal government from both a managerial and political perspective. Emphasis on executive branch organization, integration, and coordination, as well as current trends in government regulation, accountability, and effectiveness. (Fall) Tolchin, Kas

215 Law and the Public Administrator (3)

Exploration and analysis of the functions of law in a democratic society. Emphasis is placed upon the procedural, historical, and jurisprudential dimensions of American law. This broad perspective seeks to convey understanding of the law as a legal and moral force guiding and constraining public decision making. (Spring) Chitwood, Kas

216 Federal Government Regulation of Society (3)

Analysis of the federal regulatory process as it affects the public and private sectors. Specific problems involving presidential management, policy conflicts, reform efforts, legislative oversight, and economic deregulation are emphasized. Same as BAd 203. (Spring) Tolchin, Kas

217 Seminar: Development Administration I (3)

The nature of program development and implementation. Specific organizational and management problems of less developed countries. National, cultural, and political context. The giving of assistance: types of technical aid; problems in working with aid givers; analytical methods. (Fall) Honan

218 Seminar: Development Administration II (3)

The transfer of administrative capability from one country to another. Political and administrative development theories. The role of innovation. Strategies in institutional development. Organization of natural resource management. (Spring) Honan

221 Organization Theory and the Public Sector (3)

Analysis of organization theory with special focus on public organizations. Current issues in organization theory; decision making; the organizational environment and the changing nature of organizations in a postindustrial society. (Fall and spring) Harmon

- 223 **Management Factors in Complex Organizations** (3) McSwain
Analysis of the nature and characteristics of management and behavior in public organizations. Approaches to management and leadership, particularly in public organizations; influence and control systems; future trends. (Fall and spring)
- 224 **Managerial Leadership in Complex Organizations** (3) Chitwood, Kee
What the manager must know and do to provide leadership and guidance in large, complex organizations. An exploration of factors and processes that condition effective executive and managerial leadership. (Spring)
- 231 **Human Resources Management** (3) Staff
Same as BAAd 210.
- 232 **The Human Resources Manager** (3) McSwain
Same as BAAd 212.
- 233 **Seminar: Manpower Planning, Development, and Utilization** (3) West
Examination of public and private manpower trends, problems, policies, and programs. Exploration of approaches to the analysis and administration of manpower programs. Analysis of impact of economic, political, and social factors on manpower. (Fall)
- 235 **Seminar: Technology Change and Professional Human Resource Planning** (3) Frame
Addresses human resource problems arising from automation and other technological changes. Evaluation of these developments in government, business, and educational organizations, and their implications for productivity, employment, training, and education. Analysis of economic, political, and social factors influencing public and private human resource policies. (Spring)
- 236 **Unionism and Collective Bargaining** (3) Burdetsky
Same as BAAd 217. (Fall)
- 242 **Administration of State and Local Governments** (3) Staff
Examination of state and local governmental structures and functions, their place within the federal system, their revenue sources, their limitations, and the alternatives available to encourage more effective administration to meet public and private demands. (Fall)
- 245 **Intergovernmental Relations** (3) Kee
Assessment of the impacts and consequences of changes in the administration of intergovernmental policies and programs in the federal system. Legislation, roles, and responsibilities of federal, state, regional, and local systems are examined from both theoretical and practical vantage points.
- 246 **Dynamics of Citizen Participation in Administration** (3) McSwain
Review of the basic theory and principles of democracy in the American system of governance. Analysis of the nature of participation in a pluralistic society, including the characteristics and dynamics of citizen-based organizations. Exploration of effective methods or models by which citizens may contribute to administration. (Fall)
- 248 **Financing State and Local Government** (3) Kee
Analysis of the theory and practice of public finance in state and local governments. Includes the financing of services through municipal taxation, intergovernmental funds, debt instruments, and other revenue sources. Review of expenditures as well as financial management practices. (Fall)
- 249 **Urban Public Policy** (3) Staff
Examination of selected national policies and their effects on urban areas and governments. Emphasis on policy dimensions of urban systems and their relationship to the social, political, and economic context. Against the background of urban politics and administration, areas of health, education, welfare, manpower, transportation, and housing will be addressed. (Spring)
- 251 **Governmental Budgeting** (3) Pitsvada
Survey of the basic concepts, principles, and practices in governmental budgeting; interrelationship of planning, programming, and budgeting; their role in the management process. (Fall)

- 252 Public Expenditure Analysis and Planning (3)**
Intensive analysis of the concepts and principles of economics as applied to the public sector and the analytic techniques used by government agencies in planning, allocating, and managing scarce resources in the implementation of public programs. Topics include benefit-cost analysis, program budgeting, and tax and expenditure analysis. (Fall and spring)
- 253 Financial Management in the Public Sector (3)**
Intensive analysis of the concepts, principles, and general practices of financial management within federal departments and agencies, focusing on the interrelationships of financial and program functions and drawing on the several financial disciplines of budgeting, accounting, and auditing. (Spring)
- 260 Policy Formulation and Administration (3)**
Impact of economic and political factors on public policy formulation and implementation; intensive analysis of the analytical, normative, and decision-making models of the policy process with special emphasis on their relationship to current policy problems. (Fall and spring)
- 261 Policy Analysis in Public Administration (3)**
Current issues in public policy analysis. Conceptual problems encountered in policy analysis. The role and limits of analytic techniques in the development, implementation, and evaluation of public policy. (Fall and spring)
- 264 Public Program Evaluation (3)**
Theory and practice of program evaluation and evaluative research. Exploration of scope and limitations of current practice in evaluation, considering economic, political, social, and administrative factors. Examination of methodological considerations for design, data collection, analysis, and dissemination.
- 267 Cases in Public Policy (3)**
Critical analysis of topical issues in public policy, using a case-study approach. Specific issues covered will vary. Designed principally for M.P.A. students in the last half of their program. (Summer)
- 270 Telecommunication Administration (3)**
Human factors in telecommunication innovations within a public organization. Federal role in research, development, and regulation of telecommunications. Acquisitions process for major systems in federal agencies. International telecommunications policies and controversies. (Fall and spring)
- 271 Telecommunications Management (3)**
Emphasis on planning in regulated industries, managing in a technology-based industry, and personnel development. Varieties of management styles and their strengths and weaknesses; legal constraints; responsibilities and ethics.
- 272 Telecommunications Finance (3)**
Theories and approaches to telecommunications economics and finance. Examination of cost and price setting, cost allocation, price de-averaging in response to competition, tariffs, accounting and jurisdictional separations, predatory pricing, and aggregate valuation and operating measures. (Spring)
- 274 Regulation of Communications Common Carriers (3)**
The history, development, law, and public policy issues of communications common carriers; emphasis on telephone and satellite industries; the impact of antitrust law; the effects of divestiture; the reconfiguration of the telephone industry; future trends. (Fall and spring)
- 275 Telecommunications Choices for Public Managers (3)**
Critical management and policy issues facing the public manager in telecommunications. Location of managerial responsibility, planning methods and needs surveys, centralized vs. decentralized management and control, in-house facilities vs. cost/time sharing, controlling costs, productivity implications, and networking. (Spring)
- 280 Purchasing and Materials Management (3)**
Same as BAD 280.
- 281 Procurement and Contracting (3)**
Same as BAD 281.

- 282 **Government Contract Administration** (3) Sherman
Same as BAd 282.
- 283 **Pricing and Negotiation** (3) Sherman
Same as BAd 283.
- 285 **Systems Procurement and Project Management** (3) Sherman
Same as BAd 285.
- 288 **Field Problem Studies in Public Administration** (3) Staff
Field research and approved internships on selected issues and aspects of public administration, including specific policy and management problems arising in governmental agencies and related public institutions. Open to master's students upon completion of 9 hours toward the degree program and with the consent of the intern coordinator. (Fall and spring)
- 289 **Public Program Management and Policy Implementation** (3) McSwain
Review of the diverse concepts and issues in public administration; analysis and integration of political, economic, managerial, and leadership values and issues that are likely to be raised in implementing public policies in the future. Open only to M.P.A. degree candidates in their final semester of study; serves as a capstone seminar to the M.P.A. program. (Fall and spring)
- 290 **Special Topics in Public Administration** (3) Staff
Experimental course; new course topics and teaching methods. May be repeated once for credit.
- 295 **Research Methods** (3) Adams, Newcomer
Theory and practice in research methodology. Data sources and gathering, research models and designs. Critical evaluation of research studies. Emphasis on application of research methods to policy questions. (Fall and spring)
- 296 **Statistical Applications in Public Administration** (3) Adams, Newcomer
Use of statistics, computers, and SPSS in research and program evaluations. Emphasis on interpretation and use of statistics. Development of basic statistical competency; frequency distribution, sampling, central tendency, variability, correlation, probability, regression. (Fall and spring)
- 298 **Directed Readings and Research in Public Administration** (3) Staff
Supervised reading in selected fields within public administration. Admission by permission of instructor. May be repeated once for credit.
- 299 **Thesis Seminar** (3) Staff
Examination of thesis standards, research philosophy, and methodology in public administration.
- 300 **Thesis Research** (3) Staff

Fourth Group

Fourth-group courses are primarily for doctoral students and are offered as the demand requires. They are open to selected master's students upon petition approved by the Associate Dean.

- 311 **Seminar: Public-Private Sector Institutions and Relationships** (3) Staff
An analysis and critique of alternative theoretical frameworks for describing, understanding, and predicting the nature, values, and actions of American public and private institutions. Problems, potentials, and alternatives for structuring public and private institutional arrangements to meet the needs of society. Prerequisite: doctoral degree candidate status.
- 323 **Seminar: The Complex Organization** (3) McSwain
Unique problems of complex organizations: public, private, and mixed. Emerging concepts and theories. Selected issues.
- 373 **Seminar: Public Administration and American Political and Social Institutions** (3) McSwain
Supervised in-depth study of contemporary and historical literature in selected fields in public administration. (Spring)
- 374 **Seminar: Trends in Public Administration Theory** (3) Harmon
Survey of contemporary normative and epistemological issues in public administration theory and practice. Analysis of the past and present influence of logi-

cal positivism, behaviorism, humanism, existentialism, and phenomenology (Fall)

377 Seminar: Social Action and Public Policy (3)

Interdisciplinary approach to the normative foundations of public policy. Focus on theoretical problems of social action; interrelation of theory and practice (Spring)

393 Substance and Method: Current Topics and Research in Public Administration (1)

Current research discussed in a colloquium setting. The conduct of research and presentation of research findings. May be repeated for credit.

398 Advanced Reading and Research (arr.)

Limited to doctoral candidates preparing for the general examination. May be repeated for credit.

399 Dissertation Research (arr.)

Limited to doctoral candidates. May be repeated for credit.

PUBLIC POLICY—GRADUATE PROGRAMS

Doctoral Committee on Public Policy

C.E. Rice (*Acting Chair*), W.B. Griffith, R.K. Reigelman, N. Singpurwalla, C.T. Stewart, R. Stoker, P. Wirtz

The Graduate School of Arts and Sciences offers interdisciplinary programs leading to the degrees of Master of Arts and Doctor of Philosophy in the field of public policy. The master's program allows students to concentrate in one of four policy areas: environmental and resource policy, gerontology, philosophy and social policy, or women's studies. The doctoral program, intended for those wishing to pursue academic or policymaking careers, is concerned with policy research and analysis; students may select an applied field of study in education policy, employment policy, health policy, natural resources and environmental policy, national security policy, and science and technology policy.

Master of Arts in the field of public policy—Required: the general requirements stated under the Graduate School of Arts and Sciences. For specific concentration requirements consult the Graduate School office.

Doctor of Philosophy in the field of public policy—Required: the general requirements stated under the Graduate School of Arts and Sciences, including (1) a pre-qualifying course curriculum consisting of Econ 211–12, 221–22; PAd 221; PSc 203; and one course chosen from PSc 216, 217, or 218; (2) a written qualifying examination; (3) a post-qualifying course consisting of Phil 255, Soc 776, and Mgt 391; (4) a minimum of 18 hours related to one of the six policy fields; (5) completion of research skills requirements in two of the following: statistics, computer programming, and historical research methods; and (6) completion of the general examination in the form of an approved dissertation proposal.

398 Advanced Reading and Research (arr.)

Limited to students preparing for the Doctor of Philosophy general examination.

399 Dissertation Research (arr.)

Limited to Doctor of Philosophy candidates. May be repeated for credit.

RADIOLOGICAL SCIENCES—GRADUATE PROGRAM

Professors S.D. Rockoff (*Interim Chair*), E.W. Bradley (*Research*), D.J. Goodenough, R.C. Reba, C.C. Rogers

Associate Professors B.W. Wessels, E.D. Yorke

Assistant Professors P.F. Butler, T.C. Fearon

Doctor of Philosophy in the field of radiological sciences with a concentration in medical physics—Prerequisite: A bachelor's degree in physics or the equivalent.

Required: The general requirements stated under the Graduate School of Arts and Sciences, including Rad 203, 204, 205, 206, 207, 208, 209, and the General Examination.

Research fields: radiation therapy physics, radiobiology, diagnostic radiology physics, physics of nuclear medicine, health physics, information systems, and biophysics.

- 201 **Advanced Topics in Nuclear Magnetic Resonance I** (3) Staff
Topics include generation of nuclear magnetic resonance signals, Bloch equations, rotating frame analysis, relaxation mechanisms, quadrature phase detection, chemical shift, receiver coil design, image encoding, slice selection shim coils, magnet design, data processing, quality assurance, and zonal and tesseral harmonics mapping. Prerequisite: permission of instructor.
- 202 **Advanced Topics in Nuclear Magnetic Resonance II** (3) Staff
Recent developments in nuclear magnetic resonance imaging, magnet design, surface coil design, and image quality analysis; related research developments. Prerequisite: Rad 201 or permission of instructor.
- 203 **Physics in Medicine I** (3) Staff
Atomic and nuclear physics, interactions of charged particles with matter, interactions of electromagnetic radiation with matter, neutron physics, radiation detection and measurement.
- 204 **Physics in Medicine II** (3) Staff
Review of electricity and magnetism, electronics with applications to x-ray generators, clinical linear accelerators, microwave and patient monitoring equipment. Physics of magnetic resonance imaging and of ultrasound. Applications of computers and computer science in medicine. Prerequisite or concurrent registration: Rad 203.
- 205-6 **Physics of Diagnostic Radiology, Therapeutic Radiology, and Nuclear Medicine I-II** (3-3) Staff
Design and operation of x-ray units, image formation, digital imaging and processing, principles of computed tomography, magnetic resonance imaging, ultrasound imaging. Nuclear structure, production of nuclides, radioactive decay, nuclear medicine detectors and electronics, counting statistics, internal emitter dosimetry, imaging techniques (PET, SPECT, gamma cameras). High-energy therapy machines, dosimetry theory and applications, patient treatment planning (TAR, TMR, depth dose, isodose curves, multiple beams, beam modifiers). Dosimetry of inhomogeneous media. Brachytherapy, display and evaluation of dose distributions, electron-beam therapy. Introduction to radiation safety: principles and concepts, shielding, monitoring, regulatory requirements. Prerequisite: Rad 203.
- 207 **Medical Physics Radiation Laboratory I** (3) Butler, Fearon
Practicum based on the calibration and quality assurance programs for x-ray equipment used in diagnostic radiology. Prerequisite or concurrent registration: Rad 203.
- 208 **Medical Physics Radiation Laboratory II** (3) Wessels, Yorke
Practicum based on the calibration and quality assurance programs for therapeutic radiology. Prerequisite or concurrent registration: Rad 203.
- 209 **Medical Physics Radiation Laboratory III** (3) Atkins
Practicum based on the calibration and quality assurance programs for nuclear medicine. Prerequisite or concurrent registration: Rad 203.

RELIGION

University Professor S.H. Nasr
Professors R.G. Jones, H.E. Yeide, Jr. (Chair), D.D. Wallace, Jr., A.J. Hildebeitel
Associate Professorial Lecturer E.S. Jospe
Assistant Professor S.A. Quitslund

Bachelor of Arts with a major in religion (departmental)—The following requirements must be fulfilled:

1. The general requirements stated under Columbian College of Arts and Sciences.
2. Prerequisite courses—Rel 1, 2.

3. Four required courses in related areas—(a) 6 semester hours in studies of culture other than American and English (preferably a foreign language), and (b) 6 semester hours in either literature, philosophy, or history.

4. Required courses in the major—30 semester hours, including at least 21 hours of upper-level courses. Twelve of these hours must be chosen from one of the following religious traditions: Christianity, Hinduism, Islam, and Judaism. Appropriate graduate seminars may be approved as substitutions for advanced-level courses. The program must include Rel 101 and at least one course each in Hebrew Scriptures and in New Testament.

Special Honors are awarded to students who meet the requirements stated under Regulations and who complete an honors thesis by enrolling in Rel 191.

It is recommended that students include the study of foreign languages in their undergraduate program, including a language crucial to one of the religious traditions. All students expecting to enter graduate school are urged to study French or German.

Minor in religion—Required: a minimum of 18 semester hours in religion, of which at least 6 must be upper-level courses. The minor program will be developed in consultation with the departmental advisor. Rel 101 is strongly recommended for all participating students.

Master of Arts in the field of religion—Prerequisite: the degree of Bachelor of Arts with a major in religion from this University, or an equivalent degree, and reading knowledge in a foreign language related to the program of study (which may be demonstrated after enrollment in the program).

Required: the general requirements stated under the Graduate School of Arts and Sciences. Of the 24 semester hours of required courses (exclusive of the thesis), at least 12 must be in third-group religion courses; a maximum of 9 may be in a closely related field outside the Department of Religion as approved by the department. The Master's Comprehensive Examination must cover three fields (the thesis research must be on one of these three fields) selected from the following: the Hebrew Scriptures, the New Testament, Christianity, Hinduism, Islam, Judaism, history of religion in America, modern religious thought, ethics, sociology of religion, and history of religions. A reading knowledge examination, usually in French or German, is required; however, Hebrew or Greek is acceptable for those students whose thesis area is in the Biblical field and Arabic, Sanskrit, or an Eastern language for those whose thesis area is in the history of religions.

Doctor of Philosophy in the field of American religious history—See History.

First Group

1 Introduction to World Religions: West (3)

Examination of the religions of the ancient Mediterranean and the major religions of the West. Religious foundations of Western civilizations. The development of Judaism, Christianity, and Islam and their confrontations with secularization and political upheaval in the modern world. (Fall and spring)

2 Introduction to World Religions: East (3)

Examination of the major religions of the East and comparison with religions in the West. Approaches to the cross-cultural study of religion. Hinduism, Buddhism, and the religions of Tibet, China, and Japan are studied with respect to their history and their encounter with modernity. (Fall and spring)

9 The Hebrew Scriptures (3)

The history, literature, and religious thought represented by the Hebrew Scriptures (Old Testament). Continuities and contrasts between Israel and the ancient Near East are considered through study of the world view, oral and literary tradition, main religious ideas, and chief figures and movements of the biblical literature. (Fall and spring)

10 The New Testament (3)

Literature and history of earliest Christianity in the setting of the religious movements of the Greco-Roman world and developments within Judaism. The meaning of the earliest Christian proclamation about the significance of the life

teaching, and death of Jesus of Nazareth becomes the basis for tracing the formation and expansion of the Christian movement. Special attention to Jesus and Paul. Developments in worship, church structure, and the rise of early theological affirmation. (Fall and spring)

- 23 **Judaism: Identities and Ideas** (3) Staff
Exploration of important practices and beliefs in classical and modern times. Study of people and texts that confront tradition and change. This course presents several academic approaches to the description and definition of Judaic ways of life. Readings and discussions focus on the myths and rituals of Judaism. (Fall and spring)

Second Group

- 101 **Theories in the Study of Religion** (3) Hiltebeitel
Seminar taught jointly by the faculty of the Department of Religion. Analysis of different ways in which religious phenomena can be approached. Readings and discussion of some of the epoch-making books in the development of the study of religion. (Fall)
- 103 **The Prophets** (3) Quitslund
Development of the prophetic movement in Israel; cultural, economic, literary, and religious dimensions; elements of lasting value in the prophetic teaching. Study of selected prophets. (Fall)
- 104 **The Life and Thought of Jesus** (3) Quitslund
Comprehensive study of the life and teachings of Jesus with critical attention to sources. Quest for the historical Jesus. (Spring)
- 105 **The Life and Thought of Paul** (3) Quitslund
Backgrounds of early Christianity, first-century religious and social conditions affecting the spread of Christianity, the life and journeys of Paul, Paul's presentation of the Christian faith.
- 107 **Rabbinic Literature and Thought** (3) Staff
Readings of the Mishna, Tosefta, Talmuds, midrashim, and liturgical works in English translation. Methods of literary and historical analysis introduced and applied. Individual research projects.
- 111 **Myth, Epic, and Novel** (3) Hiltebeitel
Religious themes and images of the hero and their cultural significance in literature: e.g., Indo-European, Biblical, Babylonian narrative traditions; Greek epic and drama; Dante, Milton, Dostoevsky, Kafka, Hesse, Faulkner, Beckett.
- 113 **Early Post-Biblical Judaism** (3) Staff
History of Judaism from the time of Ezra through the destruction of Jerusalem in 70 CE—canonization of the Pentateuch, Hellenism, Maccabean revolt, growth of sectarian movements, Herod, ferment against Rome in context of Eastern and Western political currents. Use of primary sources, especially the Bible, Josephus, and rabbinic and noncanonical writings.
- 114 **Judaism in the Rabbinic Period** (3) Staff
From 70 CE through end of rabbinic period. Focus on religious responses to destruction of the Temple; apocalyptic thinking and revolt of Bar Cochba; rabbinic and patriarchal responses to Roman authority; Tannaitic and Amoraic Judaism in Palestine and Babylonia; mystical and folk religion phenomena preserved in art and literature.
- 115 **Judaism in the Medieval World** (3) Staff
History of relations between Jews and non-Jews. Daily life and education of the ordinary Jew; rabbinical law and interpretation of scripture; Jewish philosophers, mystics, sects, and messianic movements.
- 116 **Judaism After Emancipation** (3) Staff
Transformation of community and beliefs among Jews beginning with catalyst of their political emancipation. Responses to beginnings of modernity among Jews in Europe, America, and Israel.

- 121 **Ethics and the World Religions** (3)
Modern concepts of ethics and their relation to major world religions; religion as stimulus and barrier to moral change; modern moral issues and religious ethics. (Fall) Yeide
- 122 **Christian Ethics and Modern Society** (3)
Nature and principles of Christian life as developed by the Christian community; problems of personal conduct; application to various social institutions. Yeide
- 124 **Contemporary Movements in Theology** (3)
Theological approach and systems of a selected number of modern theologians and/or theological movements such as process theology, liberation theology. Quitslund
- 126 **Western Mysticism** (3)
Study of the phenomenon of religious experience and of selected mystics in Judaism, Christianity, and Islam. (Spring) Quitslund
- 127 **Medicine, Religion, and Healing** (1)
Total care concept. Importance of religion in medical practice for patient and physician. Concept of the professional, the clergy's role in healing, religious perspective on issues in medical ethics. (Spring) Yeide
- 134 **The Holocaust in Film and Literature** (3)
Study of artistic responses in fiction and nonfiction to a period of supreme importance in Jewish and world history; the attempts on screen and in print to confront and understand this modern catastrophe. Staff
- 143 **Early Christianity and the Spiritual Life of the Ancient World** (3)
Rise and development of Christianity in relation to the culture, philosophy, mystery religions, and general religious life of the Greco-Roman world to A.D. 500. Wallace
- 144 **Medieval Faith and Symbolism** (3)
Christian life and thought in the Middle Ages; mystics, saints, popes, and philosophers. Wallace
- 145 **Religious Currents in the Renaissance and Reformation** (3)
Transformation of Western man's understanding of his identity and destiny from the end of the Middle Ages to the Age of Reason. (Fall) Wallace
- 146 **Christianity from the Enlightenment to Existentialism** (3)
Changes in Christian life and thought since 1700, as seen in theology, literature, political life, and religious institutions. (Spring) Wallace
- 155 **Anthropological Approaches to Religion** (3)
Same as Anth 155. Simons, Wagner
- 157 **Indian Philosophy and Mysticism** (3)
Indian speculative and mystical traditions; late Vedas, Upanishads, Bhagavad Gita, Buddhist, and Hindu soteriological systems. (Fall) Hiltebeitel
- 158 **Hinduism** (3)
Study of continuity and change in Hinduism, with emphasis on historical development and the consolidating features of the religion. Attention to relations between classical and popular living forms. Hiltebeitel
- 159 **Mythologies of India** (3)
The lore of Indian gods (Vedic, Puranic), heroes (epics), and holy men (Hindu, Buddhist, Jain, Tantric); ties with Indian art, caste, cult, cosmology, and spiritual ideals. Hiltebeitel
- 160 **Buddhism** (3)
Origin, development, and contemporary status of Buddhist life and thought; its impact on Asia. (Spring) Hiltebeitel
- 161 **Islam** (3)
Origin, development, and contemporary status of Islamic life and thought; its impact on the Near East. (Fall) Nasr
- 162 **Symbolism in the History of Religions** (3)
Religious symbolism, myth, legend, and ritual in the religions of the world; various theoretical analyses. Hiltebeitel

- 163 **Islamic Religion and Art** (3) Nasr
Investigation of major forms of Islamic art, such as calligraphy, architecture, and urban design; Quranic chanting, poetry, and music in relation to the principles of Islamic revelation. Same as Art 119.
- 164 **Islamic Philosophy and Theology** (3) Nasr
The major schools of Islamic philosophy and theology, considered in both a morphological and historical manner. The relation between revelation and reason, determination and free will, and divine and human knowledge as well as the relation among science, philosophy, and religion. The development of various schools of thought, from the classical period to the present.
- 165 **Sufism (Islamic Mysticism)** (3) Nasr
The foundation of Sufism in the Quranic revelation, its subsequent development, and its significance within Islamic civilization. Doctrines and practices of Sufism; history of the Sufi orders; Sufi literature, particularly in Arabic and Persian. The influence of Sufism upon social and political life and its state and role in the contemporary world, both Islamic and non-Islamic. (Spring)
- 172 **Religion in American Culture** (3) Wallace
Growth of religious groups and institutions in relation to American culture, development of religious thought, and analysis of the contemporary religious scene. (Fall)
- 174 **American Judaism** (3) Staff
Religious thought and institutions with emphasis on contemporary Judaism. Mythic and ritual life of American Jews, including responses to Israel, diaspora, the Holocaust, family and community dynamics. (Spring)
- 181 **Women in Western Religion** (3) Quitslund
Historical, theological, and ethical investigation of the image and role of women in Judaism and Christianity; special consideration of the Biblical experience, the sexual qualifications for religious office, use of male and female images and languages, and contemporary issues.
- 183 **Individualism, Reason, and Tradition in Early Modern Europe** (3) Kennedy
Same as Engl/Fren/Ger/Hist 183 and Art 187.
- 184 **The Thought of Martin Buber** (3) Jospe
Basic principles underlying the Life of Dialogue and application of those principles to all strata of life from interpersonal relationships to the religious realm.
- 190 **Selected Topics in Religion** (3) Staff
Critical examination of religious phenomena rendered timely by current events or special resources. Topic announced in the *Schedule of Classes*. May be repeated for credit provided the topic differs.
- 191 **Senior Honors Thesis** (3) Staff
Required of and open only to undergraduate honors candidates in religion. (Fall and spring)

Third Group

- 209-10 **Seminar: Biblical Studies** (3-3) Jones
Main problems of Biblical literary, historical, and theological criticism.
- 213 **Seminar: Judaism in Late Antiquity** (3) Staff
Selected topics.
- 222 **Seminar: Ethics** (3) Yeide
Selected topics. (Fall)
- 235 **Seminar: Roman Catholicism in the Modern World** (3) Quitslund
Important leaders and their ideas in selected developments since 1800—doctrinal, spiritual, biblical, liturgical, and ecumenical. Emphasis on the 20th century.
- 237 **Seminar: Theological Analysis** (3) Quitslund
Historical and topical study of the development of important ideas in such areas as Christology, ecclesiology, and death. (Fall)
- 238 **Seminar: Contemporary Judaism** (3) Staff
Selected topics.

- 260 Seminar: Topics in Islamic Studies (3)**
Study of sources and approaches to the investigation of Islam by both Western Islamicists and Muslim scholars, with discussion of the main controversial issues and differences in methods used by various schools of scholarship. Prerequisite: A course on Islam or permission of instructor.
- 261 Seminar: Topics in Islamic Thought (3)**
Perennial major issues in Islamic theology, philosophy, and Sufism such as Divine Unity, prophetology, eschatology, religious knowledge, sacred law, and ethics. Prerequisite: A course on Islam or permission of instructor.
- 262 Seminar: History of Eastern Religions (3)**
Selected topics. (Spring)
- 271 Seminar: American Religious History to 1830 (3)**
Religious thought and life during the Colonial and early National period. (Spring)
- 273 Seminar: American Religious History Since 1830 (3)**
Religious thought and life from the Civil War to the present.
- 291-92 Readings and Research (3-3)**
Investigation of special problems. (Academic year)
- 299-300 Thesis Research (3-3)**
(Fall and spring)

ROMANCE LANGUAGES AND LITERATURES

Professors J.A. Frey, J.F. Burks, I. Azar, P.G. Sáenz

Associate Professors M.A.B. Coffland, G. Ludlow, J.F. Thibault (Chair)

Assistant Professors G.P. Huvé, Y. Captain-Hidalgo, J.A. Quiroga, R. Valero, I.R. Vergara

Adjunct Assistant Professors M. Ferretti, R. Verona, M.N. Ament, L. Franklin, D. Kopp

Bachelor of Arts with a major in (1) French language and literature, (2) Spanish language and literature, (3) Spanish-American literature—The following requirements must be fulfilled:

1. The general requirements stated under Columbian College of Arts and Sciences
2. Prerequisite courses—Fren/Span 1-2-3, 4, 8 or 9, 10, 30, or equivalent.
3. Required for the majors—Fren 53, 54, and 90; or Span 53, 54, and 90; or Span 53, 54, and 90; plus 15 semester hours of second-group courses, of which 9 hours must be in French literature. The student is expected to demonstrate a knowledge of his or her field in breadth and depth by passing a comprehensive examination at the end of the senior year. A proseminar (Fren/Span 199-200) is required.

Minor in French or Hispanic languages and literatures—Required: 9 semester hours chosen from Fren or Span 30, 53, 54, 90; 12 additional hours selected from among French or Spanish courses numbered 8 and above, including at least 6 semester hours of second-group courses.

Placement Examinations: A student who has not been granted advanced standing and who wishes to continue in college the language begun in high school must take a placement examination before registration. Upon completion of the examination, assignment is made to the appropriate course.

FRENCH

Departmental prerequisite: Fren 4 or equivalent is prerequisite to all courses in French from Fren 8 and above.

1 Introductory French I (4)

First-semester French. Pronunciation, conversation, reading, composition, grammar. Laboratory fee, \$35. (Fall, spring, and summer)

2 Introductory French II (4)

Second-semester French. Emphasis on communication, composition, and reading. Prerequisite: Fren 1 or equivalent. Laboratory fee, \$35. (Fall, spring, and summer)

- 3 **Intermediate French (4)** Staff
Third-semester language study. Complete review of grammar. Emphasis on vocabulary acquisition, reading, and composition. Prerequisite: Fren 2 or equivalent. Laboratory fee, \$35. (Fall, spring, and summer)
- 4 **Language and Culture (3)** Verona and Staff
Fourth-semester language study. History, geography, and culture of France, with emphasis on conversation and composition. Prerequisite: Fren 3 or equivalent. Laboratory fee, \$35. (Fall, spring, and summer)
- 8 **The Language of Business, Commerce, and Management (3)** Staff
Fifth-semester language study; refining of general linguistic competence; introduction to French economic life; the language of business and finance. Emphasis on oral presentation, stressing communicative skills. Prerequisite: Fren 4 or equivalent. Students who receive credit for Fren 8 cannot receive credit for Fren 9. (Fall)
- 9 **Contemporary Institutions (3)** Staff
Fifth-semester language study based on written and video documentation of contemporary society, institutions, everyday life, current events. Emphasis on oral presentation, stressing communicative skills. Material fee, \$35. Prerequisite: Fren 4. Students who receive credit for Fren 9 cannot receive credit for Fren 8. (Fall, spring, and summer)
- 10 **Press, Communication, and Politics (3)** Huvé and Staff
Sixth-semester language study utilizing daily and weekly newspapers and magazines. Emphasis on writing skills. Special attention to national and international issues as seen from the perspective of France and the Francophone world. Material fee, \$35. Prerequisite: Fren 8 or 9. (Fall, spring, and summer)
- 20 **French Pronunciation (3)** Huvé
The sounds of French. Oral readings, presentations, recitation. Poetry, scenes from plays. Emphasis on phonetics and diction, with attention to accent, rhythm, and intonation. Prerequisite: Fren 10. (Fall)
- 30 **General Readings in French Literature (3)** Verona and Staff
Readings in prose, poetry, and drama. Introduction to techniques of textual criticism; attention to linguistic and stylistic difficulties in textual analysis. Prerequisite: Fren 10. (Fall and spring)
- 49 **French for Graduate Students (0)** Staff
For graduate students preparing for reading examinations. No academic credit. Tuition is charged at the rate of 3 credit hours. (Fall and summer)
- 53 **History of French Literature from the Middle Ages Through the 17th Century (3)** Burks, Coffland
Lecture and discussion in French. Development of genre and movements. Selected readings across these periods plus the reading of complete texts of epics, essays, novels, and plays. Prerequisite: Fren 30 or equivalent. (Fall)
- 54 **History of French Literature from the 18th Through the 20th Century (3)** Burks, Coffland
Lecture and discussion in French. Philosophical and literary movements of the modern period. Selected readings across the period plus the reading of complete texts of novels and drama. Prerequisite: Fren 30 or equivalent. (Spring)
- 90 **Textual Analysis (3)** Burks
Methodology and vocabulary of literary criticism. Application of various principles of textual analysis and critical approaches to literature. Prerequisite: Fren 30 or equivalent. (Spring)
- 108 **Advanced French Grammar and Style (3)** Thibault and Staff
Composition, drills, dictations. Translations into French. Study of vocabulary and syntax, with emphasis on stylistic devices. Prerequisite: Fren 10. (Spring)
- 109 **Contemporary France (3)** Staff
Emphasis on advanced oral work. Discussion of French culture and civilization, based on contemporary writings and video documents. Material fee, \$35. Prerequisite: Fren 10. (Fall)

- 110 **Business and Commercial French** (3)
Structure and language of French economic institutions. Discussion of legal, financial, and administrative documents. Oral and written reports. Preparation for the certificate of the Paris Chamber of Commerce. Prerequisite: Fren 10. (Spring) Staff
- 120 **Studies in Medieval French Literature** (3)
Readings and analysis of the major literary texts from the 11th through 15th centuries. *Chansons de geste*, Courtly literature, fabliaux, drama, lyric and didactic poetry. Frey and Staff
- 121 **French Literature of the Renaissance** (3)
The development and maturation of humanistic ideals in France during the 16th century. Rabelais, Montaigne, and La Pléiade. (Fall) Burks and Staff
- 122 **The Age of Classicism** (3)
Drama, philosophy, criticism, poetry, and fiction of the 17th century. Study of major social, political, and religious movements: *préciosité*, Baroque, Jansenism, rationalism. (Spring) Burks, Ludlow
- 123 **The Age of Enlightenment** (3)
Study of major novelists, dramatists, *philosophes*, and ideologues of the 18th century. The influence of the works of Montesquieu, Voltaire, Diderot, and Rousseau on European and American thought of the period. (Spring) Ludlow
- 124 **19th-Century French Literature** (3)
Study of the major literary movements of the 19th century from romanticism to symbolism. Emphasis on stylistic analysis of major poems, novels, and dramas. Frey, Thibault
- 125 **Studies in 20th-Century French Literature** (3)
The major literary movements of the 20th century: *avant-garde*, surrealism, existentialism, *nouveau roman*, and *nouveau théâtre*. (Spring) Coffland, Thibault
- 130 **Theory of Poetic Discourse** (3)
An examination of the creation and evolution of poetic genres. Textual analysis of major French poets. Staff
- 131 **Theory of Narrative Discourse** (3)
Study of the various traditions in the novel, from its medieval origins to the present. Staff
- 132 **Theory of Drama** (3)
Study of major dramatic genre. Medieval forms, classic tragedy and comedy; Romantic drama and melodrama; *fin de siècle*; contemporary theatre. Burks
- 133-34 **Special Topics in French Literature** (3-3)
May be repeated for credit provided the topic differs. Fall 1990: Cinema and literature (*avant garde* and Surrealism). Spring 1991: Roland Barthes—structuralist and semiotician. Thibault, Burks
- 199-200 **Proseminar** (3-3)
Required of all majors; preparation for the major field examination. Conferences, group discussion, practicum; literature in relation to the other arts and the social sciences. Fren 199: textual analysis, literary criticism, theory, and methods. Fren 200: the concepts of literary history and the history of French literature; periods, authors, genres, topics. (Academic year) Staff
- 299-300 **Thesis Research** (3-3)
(Fall and spring) Staff

ITALIAN

- 1 **Introductory Italian I** (4)
First-semester Italian. Pronunciation, conversation, reading, composition, grammar. Laboratory fee, \$35. (Fall, spring, and summer) Coffland and Staff
- 2 **Introductory Italian II** (4)
Second-semester Italian. Emphasis on communication, composition, and reading. Prerequisite: Ital 1 or equivalent. Laboratory fee, \$35. (Fall, spring, and summer) Coffland and Staff

- 3 **Intermediate Italian** (4) Coffland and Staff
Third-semester Italian. Complete review of grammar. Emphasis on vocabulary acquisition, reading, and composition. Prerequisite: Ital 2 or equivalent. Laboratory fee, \$35. (Fall)
- 4 **Language and Culture** (3) Coffland and Staff
Fourth-semester language study. History, geography, and culture of Italy, with emphasis on conversation and composition. Prerequisite: Ital 3 or equivalent. Laboratory fee, \$35 per semester. (Spring)
- 9 **Contemporary Institutions** (3) Ferretti
Fifth-semester language study based on written and video documentation of contemporary society, institutions, everyday life, current events. Emphasis on oral presentation, stressing communicative skills. Material fee: \$35. Prerequisite: Ital 4. (Fall)
- 10 **Press, Communication, and Politics** (3) Ferretti
Sixth-semester language study, utilizing daily and weekly newspapers and magazines. Emphasis on writing skills. Special attention to national and international issues as seen from the perspective of Italy. Material fee, \$35. Prerequisite: Ital 9. (Spring)
- 51-52 **Survey of Italian Literature** (3-3) Ferretti
Readings in Italian literature from the Middle Ages to the present. Lectures, reports, and informal discussions.

PORTUGUESE

- 1 **Introductory Portuguese I** (4) Franklin
First-semester Portuguese. Pronunciation, conversation, reading, composition, grammar. Laboratory fee, \$35. (Fall)
- 2 **Introductory Portuguese II** (4) Franklin
Second-semester Portuguese. Emphasis on communication, composition, and reading. Prerequisite: Port 1 or equivalent. Laboratory fee, \$35. (Spring)
- 3 **Intermediate Portuguese** (4) Franklin
Third-semester Portuguese. Complete review of grammar. Emphasis on vocabulary acquisition, reading, and composition. Prerequisite: Port 2 or equivalent. Laboratory fee, \$35. (Fall)
- 4 **Language and Culture** (3) Franklin
Fourth-semester language study. History, geography, and culture of Brazil, with emphasis on conversation and composition. Prerequisite: Port 3 or equivalent. Laboratory fee, \$35. (Spring)
- 9 **Contemporary Institutions** (3) Franklin
Fifth-semester language study based on written and video documentation of contemporary society, institutions, everyday life, current events. Emphasis on oral presentation, stressing communicative skills. Material fee: \$35. Prerequisite: Port 4. (Fall)
- 10 **Press, Communication, and Politics** (3) Franklin
Sixth-semester language study, utilizing daily and weekly newspapers and magazines. Emphasis on writing skills. Special attention to national and international issues as seen from the perspective of Brazil and Portugal. Material fee, \$35. Prerequisite: Port 9. (Spring)

ROMANIAN

- 49-50 **Readings in Romanian** (3-3) Verona
An introductory course that stresses the basic grammar of Romanian and concentrates on the development of reading skills. Knowledge of another Romance language is useful. (Offered as the demand warrants)

SPANISH

Departmental prerequisite: Span 4 or equivalent is prerequisite to all courses in Spanish, from Span 8 and above.

- 1 **Introductory Spanish I (4)**
First-semester Spanish. Pronunciation, conversation, reading, composition, grammar. Laboratory fee, \$35. (Fall, spring, and summer)
- 2 **Introductory Spanish II (4)**
Second-semester Spanish. Emphasis on communication, composition, and reading. Prerequisite: Span 1 or equivalent. Laboratory fee, \$35. (Fall, spring, and summer)
- 3 **Intermediate Spanish (4)**
Third-semester Spanish. Complete review of grammar. Emphasis on vocabulary acquisition, reading, and composition. Prerequisite: Span 2 or equivalent. Laboratory fee, \$35. (Fall, spring, and summer)
- 4 **Language and Culture (3)**
Fourth-semester language study. History, geography, and culture of Spain, with emphasis on conversation and composition. Prerequisite: Span 3 or equivalent. Laboratory fee, \$35. (Fall, spring, and summer)
- 8 **The Language of Business, Commerce, and Management (3)**
Fifth-semester language study; refining of general linguistic competence; introduction to the economic life of Latin America and Spain; the language of business and finance. Emphasis on oral presentation, stressing communicative skills. Prerequisite: Span 4 or equivalent. Students who receive credit for Span 8 cannot receive credit for Span 9. (Fall)
- 9 **Contemporary Institutions (3)**
Fifth-semester language study based on written and video documentation of contemporary society, institutions, everyday life, current events. Emphasis on oral presentation, stressing communicative skills. Material fee: \$35. Prerequisite: Span 4. Students who receive credit for Span 9 cannot receive credit for Span 8. (Fall, spring, and summer)
- 10 **Press, Communication, and Politics (3)**
Sixth-semester language study utilizing daily and weekly newspapers and magazines. Emphasis on writing skills. Special attention to national and international issues as seen from the perspective of Spain and Spanish America. Material fee: \$35. Prerequisite: Span 8 or 9. (Fall, spring, and summer)
- 20 **Spanish Pronunciation (3)**
The sounds of Spanish. Oral readings, presentations, recitation. Poetry, scenes from plays. Emphasis on phonetics and diction, with attention to accent, rhythm, and intonation. Prerequisite: Span 10. (Fall)
- 30 **General Readings in Spanish Literature (3)**
Readings in prose, poetry, and drama. Introduction to techniques of textual criticism; attention to linguistic and stylistic difficulties in textual analysis. Prerequisite: Span 10. (Fall and spring)
- 49 **Spanish for Graduate Students (0)**
For graduate students preparing for reading examinations. No academic credit. Tuition is charged at the rate of 3 credit hours. (Fall)
- 53 **History of Spanish Literature from the Middle Ages Through the Siglo de Oro (3)**
Lecture and discussion in Spanish. Development of genre and movements. Selected readings across the period plus the reading of complete texts of epics, essays, novels, and drama. Prerequisite: Span 30 or equivalent. (Fall)
- 54 **History of Spanish Literature from the 18th Through the 20th Century (3)**
Lecture and discussion in Spanish. Philosophical and literary movements of the modern period. Selected readings across the period plus the reading of complete texts of novels and drama. Prerequisite: Span 30 or equivalent. (Spring)

- 55 **History of Spanish-American Literature from the Conquest Through Romanticism** (3) Quiroga
Spanish-American literature from the Conquest through the Romantic period. A survey course that covers all genres and focuses on major trends and issues. (Fall)
- 56 **History of Spanish-American Literature from Modernism to the Present** (3) Quiroga
A survey course that covers all genres and focuses on major trends and issues. Prerequisite: Span 30 or equivalent. (Spring)
- 90 **Textual Analysis** (3) Captain-Hidalgo
Methodology and vocabulary of literary criticism. Application of various principles of textual analysis and critical approaches to literature. Prerequisite: Span 30 or equivalent. (Spring)
- 108 **Advanced Spanish Grammar and Style** (3) Quiroga, Valero
Composition, drills, dictations. Translations into Spanish. Study of vocabulary and syntax, with emphasis on stylistic devices. Prerequisite: Span 10. (Spring)
- 109 **Contemporary Spain and Latin America** (3) Quiroga, Vergara
Emphasis on advanced oral work. Discussion of Hispanic culture and civilization, based on contemporary writings and video documents. Material fee, \$35. Prerequisite: Span 10. (Fall)
- 110 **Business and Commercial Spanish** (3) Staff
Structure and language of Latin American and Spanish economic institutions. Discussion of legal, financial, and administrative documents. Oral and written reports. Prerequisite: Span 10. (Spring)
- 120 **Studies in Medieval Spanish Literature** (3) Azar
Reading and analysis of the major literary texts from the 11th through the 15th century. Attention paid to linguistic aspects of Old Spanish. (Fall)
- 121 **Studies in Golden Age Literature** (3) Azar
Reading and analysis of the major texts of the 16th and 17th centuries. Lyric poetry and the "invention" of subjectivity. Prose fiction and the structure of life. Golden Age Comedia and the relation between private and public life. Humanism and the Classical Tradition. The invention of the press, the status of writing, and the new culture of the book. The (post)modernity of Golden Age literature.
- 122-23 **Cervantes' Don Quijote and the Rise of the Novel** (3) Azar
The novel as a genre. Literature as an institution: Western literary tradition constructed and deconstructed. The structure of narrative and the question of truth. Literature and life.
- 124 **18th and 19th Century Spanish Literature** (3) Vergara
Readings in major 18th and 19th century texts. Romanticism, *Costumbrismo*, realism, naturalism. (Spring)
- 125 **Contemporary Spanish Literature** (3) Sáenz
Prose, poetry, and drama of the 20th century; Generations of 1898, of 1927, the novel after the Spanish Civil War.
- 130 **Theory of Poetic Discourse** (3) Quiroga
Major classical and modern poetic traditions and genres. Textual analysis of major Spanish works.
- 131 **Theory of Narrative Discourse** (3) Staff
Emphasis on the novel and short story.
- 132 **Theory of Drama** (3) Azar, Valero
Study of major dramatic traditions in Spain. Emphasis on the *commedia*. (Fall)
- 133-34 **Special Topics in Spanish Literature** (3-3) Staff
May be repeated for credit provided the topic differs. Fall 1990: The novel as a rewriting of history: Fuentes, García Márquez, Goytisolo, Delibes. Spring 1991: Modernismo y Esperpento: Valle Inclán.

- 145 **Modern Spanish-American Poetry** (3) Quiroga, Valero
Poetry after Modernism; the various metric patterns that characterize the work of authors such as Agustini, Mistral, Huidobro, Villaurrutia, Vallejo, Borges, Neruda, Parra, Cardenal, Guillén, Lezama, and Palés.
- 146 **Short Fiction** (3) Valero, Captain-Hidalgo
Analysis of short stories and short novels by writers such as Quiroga, Ruiz de Fuentès, Cortázar, Zapata Olivella, and Arenas. (Fall)
- 147 **Spanish-American Polemics** (3) Quiroga, Captain-Hidalgo
Origin and development of writing in Spanish America and its relationship to the creation of national or nationalist discourse. Readings include excerpts concerning the New World and its inhabitants, the question of independence (cultural and economic), and the discourse for and against slavery. The focus is on the 19th century and the essay. (Spring)
- 148 **New Narrative** (3) Valero, Captain-Hidalgo
A study of experimental fiction in Spanish America, with a focus on the literature of the mid-1960s through the 1970s. Precursors of and successors to the new narrative.
- 149 **Colonial Literature** (3) Quiroga, Captain-Hidalgo
Focus on the literature written before independence, with an incursion into Spanish Medieval and Renaissance literature.
- 150 **Romanticism and Modernism** (3) Quiroga, Vergara
Key writers and trends that characterize Romanticism and Modernism. Readings include works from the period of the French and American Revolutions: Andrés Bello, Sarmiento, Olmedo, Heredia, Darío, Martí, and Lugones.
- 199–200 **Proseminar** (3–3)
Required of all majors; preparation for the major field examination. Conference group discussion, practicum; literature in relation to the other arts and the social sciences. Span 199: textual analysis, literary criticism, theory, and methodology. Span 200: the concepts of literary history and the history of Spanish literature in periods, authors, genres, topics. (Academic year)
- 299–300 **Thesis Research** (3–3)
(Fall and spring)

ROMANCE LITERATURES

- 270 **Seminar: Literary History** (3)
Topic to be announced in the *Schedule of Classes*. May be repeated for credit provided the topic differs.
- 271 **Seminar: Literary Criticism** (3)
Topic to be announced in the *Schedule of Classes*. May be repeated for credit provided the topic differs.
- 272 **Seminar: Literary Theory** (3)
Topic to be announced in the *Schedule of Classes*. May be repeated for credit provided the topic differs.
- 273 **Seminar: History of the Language/Linguistics** (3)
Topic to be announced in the *Schedule of Classes*. May be repeated for credit provided the topic differs.
- 398 **Advanced Reading and Research** (arr.)
Limited to students preparing for the Doctor of Philosophy general examination. May be repeated for credit. (Fall and spring)
- 399 **Dissertation Research** (arr.)
Limited to Doctor of Philosophy candidates. May be repeated for credit. (Fall and spring)

RUSSIAN AND EAST EUROPEAN STUDIES—GRADUATE PROGRAM

Program Committee: S.L. Wolchik (Director), H. Agnew, M.A. Atkin, C.F. Elliott, C.A. Linden, J.R. Millar, C.A. Moser, Y. Olkhovsky, J. Pelzman, P. Reddaway, M.J. Sodaro, R. Thornton

Master of Arts in the field of Russian and East European studies—Offered by the Elliott School of International Affairs, this multidisciplinary program gives students a broad grasp of the history, politics, economics, cultures, and languages of Russia and Eastern Europe.

Prerequisite: the admission requirements stated under the Elliott School of International Affairs and a bachelor's degree in a related field. Before acceptance into the program, all students must show evidence of satisfactory completion of two years of study of Russian or an appropriate East European language. In order to fulfill the language requirement, students must pass a proficiency-based reading test at a level equivalent to ILR R2. This almost always requires additional Russian language study. Under certain circumstances, an appropriate East European language at the same level of proficiency may be used to satisfy the language requirement. Credit for language study is not counted toward degree requirements.

Required: the general requirements stated under the Elliott School of International Affairs. The program consists of either a 30-semester-hour option with a thesis or a 36-semester-hour option without a thesis. All students must take three courses in the required core field of Soviet internal and external affairs. Those in the 30-hour program prepare for two additional fields, while those in the 36-hour program prepare for three additional fields. Master's Comprehensive Examinations must be passed in each of the fields for which the student has prepared.

All students are expected to have background preparation of at least two courses in Russian history and one course in either Soviet government and politics or Soviet foreign policy. If any of the background courses are lacking, equivalent courses must be taken for graduate credit and can be counted toward degree requirements.

Of the three courses taken in the required core field, one must be in Soviet internal affairs and one in Soviet external affairs. Courses that satisfy the internal affairs requirement are Hist 246, PSc/Hist 258, PSc/Hist 232, and PSc 266 and 267. Courses that satisfy the external affairs requirement are Hist 255 and PSc 263 and 268. Students in the nonthesis program must prepare for a field in East European history or politics; those in the thesis program must take at least one course in East European history or politics.

Other fields in Russian and East European affairs are as follows. (1) Soviet and East European economics (Econ 267, 268, 367). (2) Ideology and political thought (PSc 207, 208). (3) Russian literature and culture (Slav 161–62, 165, 166). (4) Soviet military policy and strategy (Hist 255–56; PSc 269). (5) Modern Russian history (Hist 217, 218, 246). (6) Comparative and international aspects of Communism (PSc/Hist 232; PSc 270). (7) East European history (Hist 205, 206). (8) East European government and politics (PSc 264, 265). (9) Advanced Soviet government, politics, and policy (PSc 267 is required; other courses are IAff 292; PSc 263, 266, 268; Hist 253–54, 259–60; Hist/PSc 232, 258; Geog 265). Concentration in Russian literature and culture—Students may choose either the thesis or nonthesis option. They must take the required core field in Soviet internal and external affairs in addition to fields selected from (1) 19th-century Russian literature (Slav 126, 128, 171, 172; (2) Soviet literature (Slav 165, 166, 173, 174); (3) Russian culture (Slav 161–62).

The following courses are applicable to Russian and East European studies.

- Econ 267 Seminar: Soviet Economy
- Econ 268 Seminar: Economic Theory and Development in Communist Countries
- Econ 367 Seminar: Soviet Planning in Theory and Practice
- Geog 265 Seminar: Geography of the Soviet Union
- Hist 188 History of Chinese Communism
- Hist 205 Readings Seminar: Eastern European History, 1772–1918
- Hist 206 Readings Seminar: Eastern European History, 1919–1945
- Hist 217 Readings/Research Seminar: Russian and Soviet Thought

- Hist 218 Readings/Research Seminar: Soviet Nationalities
- Hist/PSc 232 Comparative Communist Systems I
- Hist/PSc 233 Comparative Communist Systems II
- Hist 237 Readings Seminar: Soviet Foreign Policy, 1917-1964
- Hist 246 Readings/Research Seminar: Modern Russia and Soviet Union
- Hist 253-54 Readings Seminar: History of Sino-Soviet Relations
- Hist 255-56 Readings Seminar: U.S.-Soviet Strategic Relations Since World War II
- Hist/PSc 258 Communist Party of the Soviet Union
- Hist 259-60 Research Seminar: Problems in U.S.-Soviet-Chinese Relations
- IAff 292 Colloquium: The Soviet Union and Eastern Europe
- PSc 207 Readings in Socialism and Communism
- PSc 208 Readings in Marxism-Leninism
- PSc 263 The Soviet Union and Europe
- PSc 264 Governments and Politics of Eastern Europe
- PSc 265 The International Politics of Eastern Europe
- PSc 266 Readings in Soviet Government and Politics
- PSc 267 Soviet Government and Politics
- PSc 268 Soviet Foreign Policy
- PSc 269 Soviet Military Policy and Strategy
- PSc 270 Politics of the People's Republic of China I
- Slav 126 Leo Tolstoy: His Life and Works
- Slav 128 Dostoevsky: The Man and the Artist
- Slav 161-62 Russian Culture
- Slav 165 Modern Russian Literature from the Revolution to World War II
- Slav 166 Modern Russian Literature from World War II to the Present
- Slav 171 Readings in 19th-Century Russian Prose
- Slav 172 Readings in 19th-Century Russian Poetry
- Slav 173 Readings in 20th-Century Prose
- Slav 174 Readings in 20th-Century Poetry

SCIENCE, TECHNOLOGY, AND PUBLIC POLICY—GRADUATE PROGRAM

Program Committee: J.M. Logsdon (Director), J.F. Coates, V.T. Coates, H.R. Nau, R. Rycroft, M.B. Wallerstein

Master of Arts in the field of science, technology, and public policy—The Elliott School of International Affairs offers an interdisciplinary program that focuses on interactions among scientific development, technological change, and governmental activities, both domestically and internationally. The program is designed to train individuals to understand and manage issues of science and technology policy.

Prerequisite: the admission requirements stated under the Elliott School of International Affairs and a bachelor's degree in a related field. Required: the general requirements stated under the Elliott School. The program consists of 36 semester hours, which may include 12 hours of thesis research. Students must pass Master's Comprehensive Examinations in three fields, including science, technology, and public policy (PSc 222, 223, 252, and one elective approved by the advisor), public policy analysis (a minimum of two courses usually drawn from Econ 211, 212; IAff 253, 254; PSc 203, 204; PAd 260, 261; or PAd 296), and an elective field (a minimum of two courses, which may be a field offered in another Elliott School program, a field in an academic department, or a field in a specific issue area, such as space policy, trade policy, or environmental policy).

Students must demonstrate basic familiarity with concepts of economic theory, either by having taken prior course work beyond the introductory level or by taking Econ 217-18. Students must also satisfy a tool requirement in statistics or applied statistical methods, usually by successful completion of PAd 296 or Stat 105, 112, 183, or 197. In some cases, proficiency in a foreign language may be judged integral to the student's program of study; proficiency consists of reading knowledge as certified by the appropriate language department and will satisfy the tool requirement. Courses taken to fulfill the tool requirement may not be included in the 36 semester hours required for the degree.

The following graduate courses pertain to science, technology, and public policy.

- Econ 237 Economics of the Environment and Natural Resources
- Econ 255 Economics of Technological Change
- Mgt 230 Management of Research and Development
- Mgt 232 International Science and Technology
- Mgt 233 Emerging Technology
- Mgt 235 Technological Entrepreneurship and Innovation
- Mgt 239 Seminar: Management of Research and Development
- PSc 222 Science, Technology, and Public Affairs
- PSc 223 Science, Technology, and Public Policy
- PSc 252 Science, Technology, and International Affairs

SECURITY POLICY STUDIES—GRADUATE PROGRAM

Program Committee: B.M. Sapin (Director), W.H. Lewis, B. Nimer, J.P. Rogers, R.W. Rycroft, R. Thornton

Master of Arts in the field of security policy studies—This interdisciplinary program, offered by the Elliott School of International Affairs, prepares individuals for professional careers in defense planning and programming, policy formulation and implementation, intelligence evaluation, and arms control specialties.

Prerequisite: the admission requirements stated under the Elliott School of International Affairs and a bachelor's degree in a related field. Required: the general requirements stated under the Elliott School. The program consists of 36 semester hours in four fields; there is no thesis option. All students must take four courses in the required core field of national security and defense analysis (PSc 248, 249; IAff 253, 254). At least one field must be selected from the following. (1) International security policy (Hist 255–56; PSc 241, 257). (2) Military history (Hist 228, 229, 230–31). (3) Soviet military policy and strategy (Hist 255–56; PSc 268, 269). (4) Science, technology, and public policy (PSc 222, 252). (5) Applied quantitative techniques (IAff 255–56). Two elective fields are chosen in consultation with the advisor. The four fields must represent at least two academic disciplines; no more than 24 hours of course work may be taken in any one department or discipline.

Students must pass Master's Comprehensive Examinations in each of their four fields. With permission of the program director, a student may substitute one specially designed field consisting of two courses and submit a research paper in lieu of a Comprehensive Examination.

Familiarity with economic theory and concepts at the level of Econ 217–18 is required. The tool requirement must be satisfied by demonstration of proficiency in statistics (at the level of Stat 105, 112, 183, or 197) or reading knowledge of a modern foreign language (as certified by the appropriate language department).

In addition to the courses listed below, related courses in geography, public administration, and operations research may be taken with approval of the program director or an academic advisor.

The following graduate courses pertain to security policy studies.

- Econ 217–18 Survey of Economics
- Econ 239 Economics of Defense
- Econ 267 Soviet Economy
- Econ 268 Economic Theory and Development in Communist Countries
- Econ 281–82 International Economics
- Econ 283–84 Survey of International Economic Theory and Policy
- Hist 228 Modern Military and Naval History
- Hist 229 World War II
- Hist 230–31 Strategy and Policy
- Hist 253–54 History of Sino-Soviet Relations
- Hist 255–56 U.S.–Soviet Strategic Relations Since World War II
- Hist 259–60 U.S.–Soviet–Chinese Relations
- IAff 253–54 Defense Policy and Program Analysis
- IAff 255–56 Applied Quantitative Techniques

- Iaff 293 Colloquium: National Defense Policies and Issues
- PSc 203 Approaches to Public Policy Analysis
- PSc 204 Methods of Public Policy Analysis
- PSc 207 Readings in Socialism and Communism
- PSc 208 Readings in Marxism-Leninism
- PSc 222 Science, Technology, and Public Affairs
- PSc 223 Science, Technology, and Public Policy
- PSc 238 U.S. Foreign Economic Policy
- PSc 239 U.S. Foreign Economic Policy Making
- PSc 240-41 Theories of International Politics
- PSc 244-45 International Law
- PSc 248-49 U.S. National Security Policy
- PSc 252 Science, Technology, and International Affairs
- PSc 257 Arms Control and Disarmament
- PSc 258 Communist Party of the Soviet Union
- PSc 263 The Soviet Union and Europe
- PSc 268 Soviet Foreign Policy
- PSc 269 Soviet Military Policy and Strategy

SERBO-CROATIAN

See **Slavic Languages and Literatures**.

SERVICE-LEARNING PROGRAM

152 Issues in Education and Human Services (6)

Exploration of the effects of education on society and vice versa; opportunities for service-learning in public, private, museum, hospital, and community education centers. Admission by permission of instructor. (Fall and spring)

154 Independent Study (1 to 6)

Field work combined with academic study, involving field placements and a complementary academic program of study, under the supervision of an appropriate faculty member. Students must contract with the agency, the faculty member, and the Service-Learning Program. Admission by permission of instructor. (Fall and spring)

700 SERIES

The 700 Series is made up of experimental or special courses that are on the cutting edge of the academic endeavor. Often, courses in the 700 Series focus on interdisciplinary or very current issues in a field. Because 700 Series courses change each semester, students should consult the *Schedule of Classes* for offerings. Courses are listed with the participating departments; course descriptions appear in a specially designated section of the *Schedule*.

Courses numbered 701 are in general studies, 721 courses are interdepartmental, 751 courses are interschool, and 770s are taught by University Professors and are listed in the *Bulletin* under the designation of University Professors. The program is coordinated by the Special Assistant to the Vice President for Academic Affairs.

SLAVIC LANGUAGES AND LITERATURES

Professors C.A. Moser, N.N. Natov (Emeritus)
Associate Professors Y. Olkhovsky, I. Thompson (Chair)
Associate Professorial Lecturer S. Ficks
Assistant Professors M.F. Miller, R.M. Robin

Bachelor of Arts with a major in Russian language and literature (field-of-study departmental)—The following requirements must be fulfilled:

1. The general requirements stated under Columbian College of Arts and Sciences.
2. Prerequisite courses—Slav 5-6 (preferred), or Slav 1-2, 3-4; or equivalent; and Slav 91-92.
3. Required for the major: 36 semester hours of course work in the Department of Slavic Languages and Literatures distributed as follows: language—12 hours, including Slav 9-10 and 109-10 or equivalent; culture and civilization—6 hours (Slav 161-62); literature in Russian—6 hours chosen from Slav 171, 172, 173, 174; literature in English translation—6-9 hours chosen from second-group courses (Slav 166 must be included); Slav 199-200. A student who is already proficient in Russian language or literature may, upon passing an appropriate examination, waive any or all of the first-group language or literature courses, as well as up to 6 semester hours of second-group courses.

Minor in Russian language and literature—Slav 1-2, 3-4; or 5-6; or equivalent; Slav 91-92, 165, 166.

Placement Examination: A student who has not been granted advanced standing and who wishes to continue in college the language begun in high school must take a placement examination before registration. Upon completion of the examination, assignment is made to the appropriate course.

First Group

- 1-2 **First-Year Russian (3-3)** Miller and Staff
First part of beginning course in fundamentals of speaking, understanding, reading, and writing Russian. Slav 1 is prerequisite to Slav 2. Laboratory fee, \$35 per semester. (Academic year)
- 3-4 **Second-Year Russian (3-3)** Miller and Staff
Second half of beginning course in fundamentals of speaking, understanding, reading, and writing Russian. Prerequisite to Slav 3: Slav 1-2 or equivalent. Prerequisite to Slav 4: Slav 3. Laboratory fee, \$35 per semester. (Academic year)
- 5-6 **Intensive Beginning Russian (6-6)** Thompson and Staff
Beginning intensive course in fundamentals of speaking, understanding, reading, and writing Russian (equivalent to Slav 1-2 and 3-4). Prerequisite to Slav 6: Slav 2 or 5 or equivalent. Laboratory fee, \$35 per semester. (Academic year)
- 9-10 **Third-Year Russian (3-3 or 6-6)** Miller, Thompson, Robin
Practice in speaking, listening, reading, and writing at the intermediate level. Prerequisite: Slav 4, 6, or permission of instructor. Students receive 3 credits each semester unless they elect to take the course on an intensive basis, for which 6 credits can be earned, with an additional three hours per week of practice in language skills. (Academic year)
- 21-22 **Elementary Czech (3-3)** Staff
Beginning course in fundamentals of speaking, understanding, reading, and writing Czech. Prerequisite to Slav 22: Slav 21 or equivalent. Laboratory fee, \$35 per semester. (Offered when the demand warrants)
- 31-32 **Elementary Polish (3-3)** Staff
Beginning course in fundamentals of speaking, understanding, reading, and writing Polish. Prerequisite to Slav 32: Slav 31 or equivalent. Laboratory fee, \$35 per semester. (Offered when the demand warrants)
- 41-42 **Elementary Serbo-Croatian (3-3)** Staff
Beginning course in fundamentals of speaking, understanding, reading, and writing Serbo-Croatian. Prerequisite to Slav 42: Slav 41 or equivalent. Laboratory fee, \$35 per semester. (Offered when the demand warrants)
- 51-52 **Elementary Bulgarian (3-3)** Moser
Beginning course in fundamentals of speaking, understanding, reading, and writing Bulgarian. Prerequisite to Slav 52: Slav 51 or equivalent. Laboratory fee, \$35 per semester. (Offered when the demand warrants)
- 71 **Soviet Civilization (3)** Olkhovsky
Survey of the Soviet Union's past and present development. Lectures, discussion, visual aids—in English. (Spring)

91-92 Introduction to Russian Literature (3-3)

Emergence and development of Russian literature and ideas during the 19th and early 20th centuries—in English. (Academic year)

Second Group**101-2 Readings in the Soviet Press (3-3)**

Representative reading and translation of Soviet periodicals and current publications in social sciences. Prerequisite: Slav 4 or 6 or permission of instructor.

109-10 Fourth-Year Russian (3-3)

Practice in speaking, listening, reading, and writing at the intermediate and advanced levels. Prerequisite: Slav 10 or permission of instructor. (Academic year)

126 Leo Tolstoy: His Life and Works (3)

Evolution of Tolstoy's artistic and philosophical ideas. Tolstoy's impact on Russian literature and society. Lectures, reports, and classroom analysis of his major works—in English.

128 Dostoevsky: The Man and the Artist (3)

Sources and development of Dostoevsky's philosophical, religious, and aesthetic ideas. His influence on Russian and western literature. Lectures, discussions, and reports—in English.

143-144 The Russian Novel (3-3)

Study of representative novels of the 19th and 20th centuries—in English. (Otkhvat)

161-62 Russian Culture (3-3)

Survey of Russian cultural heritage from origins of ancient Russia to present—in English. Lectures, discussion, reports.

165 Modern Russian Literature from the**Revolution to World War II (3)**

Basic themes, trends, and literary figures of the 1920s and 1930s. The impact of the revolution and civil war on writers and literature. Lectures, discussions, reports—in English.

166 Modern Russian Literature from World War II to the Present (3)

Literature in wartime and in postwar years. The "thaws," new generation of writers, and new trends in literature of the 1960s, 1970s, and 1980s. Lectures, discussions, reports—in English.

171 Readings in 19th-Century Russian Prose (3)

(Formerly Slav 141)

Reading of representative prose texts of the 19th century—in Russian. Prerequisite: Slav 10 or equivalent; Slav 91-92.

172 Readings in 19th-Century Russian Poetry (3)

(Formerly Slav 142)

Reading of representative poetry of the 19th century—in Russian. Prerequisite: Slav 10 or equivalent; Slav 91-92.

173 Readings in 20th-Century Prose (3)

(Formerly Slav 151)

Reading and discussion of representative prose of the 20th century—in Russian. Prerequisite: Slav 10 or equivalent; Slav 165, 166.

174 Readings in 20th-Century Poetry (3)

(Formerly Slav 152)

Reading of representative poetry of the 20th century—in Russian. Prerequisite: Slav 10 or equivalent; Slav 165, 166.

199-200 Proseminar: Readings for the Major (3-3)

Review and analysis of language and literature. (Academic year)

SOCILOGY

University Professor A. Etzioni

Professors R.W. Stephens, R.G. Brown (Chair), T.F. Courtless, Jr., P.H.M. Lengermann,
R.A. Wallace, P. Langton, W.J. Chambliss

Adjunct Professor S.J. Rogers

Associate Professors J.L. Tropea, S.A. Tuch

Assistant Professor R. Weitzer

Bachelor of Arts with a major in sociology (departmental)—The following requirements must be fulfilled:

1. The general requirements stated under Columbian College of Arts and Sciences.
2. Prerequisite course—Soc 1.
3. Required courses in related areas—12 semester hours in one of the following related social science fields: anthropology, economics, geography, history, political science, or psychology.
4. Required courses in the major—Soc 103, 140–41, 191, and 15 additional semester hours in second-group sociology courses. Soc 101 and 102 are strongly recommended.

Bachelor of Arts with a major in criminal justice (departmental)—The following requirements must be fulfilled:

1. The general requirements stated under Columbian College of Arts and Sciences.
2. Prerequisite course—Soc 1.
3. Required courses in related areas—Anth 154, Phil 142, PSc 115, and Psyc 154.
4. Required courses in the major—Soc 3, 135, 136, 137, 139, 151, plus three additional second-group sociology courses.

Minor in sociology—A minimum of 15 hours of course work, including Soc 1 and one course chosen from Soc 101, 102, 103, and 140, plus 9 hours of electives in courses at the 100 level or higher. Departmental advising is required.

Master of Arts in the field of sociology—Prerequisite: a bachelor's degree with a major in sociology or in an approved related field.

Required: the general requirements stated under the Graduate School of Arts and Sciences. With the approval of the advisor and of the Admissions/Advising Committee, students may elect one of the following programs: (1) at least 24 semester hours of graduate work plus a thesis (equivalent to 6 semester hours) and satisfactory completion of a Master's Comprehensive Examination in sociological theory and social research methods; or (2) at least 33 semester hours of graduate course work, satisfactory completion of a Master's Comprehensive Examination in sociological theory, social research methods, and one substantive special field (criminology/sociology of law, gender, medical sociology/health policy, race and ethnicity). Six semester hours may be taken outside the department. In addition to the hours specified above, all candidates must satisfactorily complete Mgt 225 or its equivalent. Candidates must select from the graduate sociology courses as follows: 6 hours chosen from sociological theory (Soc 238 and 239), 6 hours of social research methods (Soc 230 and 232), and 6 hours chosen from one area of specialization (criminology/sociology of law, gender, medical sociology/health policy, race and ethnicity).

Doctor of Philosophy in the field of sociology—Required: the general requirements stated under the Graduate School of Arts and Sciences. Students must complete 24 to 30 semester hours of graduate course work, 6 to 10 hours of specialized research, and 12 to 18 hours of dissertation research, for a total of 48 hours beyond the master's degree. Students must include in their program of study at least 6 hours of course work in sociological theory (Soc 338 and 339) and 9 hours in research methods (Soc 231, 232, and a course chosen from either a qualitative group [AmCv/Anth/Hist 197, WStu 221, or another approved course] or a quantitative group [Stat 118, Educ 281, or another approved course]). Students must satisfactorily complete the General Examination in sociological theory, social research methods, and one substantive area of specialization.

Departmental prerequisite: Soc 1 is prerequisite to all sociology courses except Soc 181.

First Group

- 1 **Introductory Sociology** (3)
General principles of sociology; development of culture and personality, interaction of groups and institutions on social behavior. (Fall and spring)
- 2 **Major Social Issues** (3)
Critical examination of selected social issues in contemporary American society. (Fall and spring)
- 3 **Introduction to Criminal Justice** (3) Chambliss, Courtless, Tropea, Wallace
An introduction to the study of criminal justice. The historical development of criminal justice and its evolution into modern legal systems. The impact of different forms of criminal justice on society and the individual. (Fall and spring)

Second Group

- 101 **Development of Social Thought** (3)
An exploration of the emergence and growth of sociology from 1800 to 1930 with emphasis on the elaboration of sociological concepts and theories. (Fall) Lengermann
- 102 **Modern Sociological Theory** (3)
Systematic study of contemporary schools of sociological theory, both European and American; evaluation of scientific contributions of each school. (Spring) Wallace, Lengermann
- 103 **Major Sociological Perspectives** (3)
An examination of the development and contemporary content of the major theoretical perspectives guiding sociological work. Theories include functionalism, exchange theory, critical theory, conflict theory, symbolic interactionism, and phenomenology. (Fall and spring) Lengermann, Wallace
- 120 **Sociology and Public Policy** (3)
Introduction to concepts, theory, and research illustrating the application of the sociological perspective to public policy. (Fall) Brown, Langton
- 122 **Death and Dying: A Sociological Perspective** (3)
Processes of death and dying examined from the perspectives of dying persons, their families and professionals. Death as a social institution and various social issues surrounding death, such as suicide, euthanasia, capital punishment and death-related social movements, are analyzed. (Spring) Brown, Langton
- 124 **Medical Sociology** (3)
Social factors and processes related to the etiology and treatment of physical and mental illness; medical occupations and professions, medical organizations, problems of delivery of health care services. (Fall) Wallace, Yon
- 125 **Sociology of Religion** (3)
An analysis of the relationships between religion and society. Topics include the emergence of uniquely American religious forms such as civil religion and countercultural groups. (Fall, odd years) Wallace, Yon
- 126 **Urban Sociology** (3)
The sociological dynamics of the city and of urban growth in the United States; urban conflict, class conflict, and racism; problems of urban decay, crime, deviance, political competition, and revolt. (Fall) Langton
- 127 **Social Demography** (3)
Composition of populations, trends in population growth and population change, factors producing population movements, effects of migration, population policies—eugenics and birth control. (Fall) Stephens
- 129 **Race and Minority Relations** (3)
Analysis of relationships between dominant and minority groups in society, particularly in the United States; nature and range of problems; analysis of the phenomenon of prejudice. (Spring) Stephens

- 130 **Class and Inequality in American Society** (3) Tuch, Brown
Analysis of distribution of resources and opportunities for participation, education, and social mobility in American society; international comparisons; analysis of public policies that affect these distributions. (Fall)
- 132 **The Family in Modern Society** (3) Stephens
An examination of the stages of family life: birth, childhood, premarital relationships, marriage and sex roles in marriage, retirement and old age. Special emphasis on development and maintenance of interpersonal relations. (Fall)
- 133 **Learning and the Life Cycle** (3) Tropea, Wallace
Sociological approaches to learning from childhood through adolescence and adulthood. Emphasis on the impact of social institutions and group interaction on the learning process. (Spring)
- 134 **Violence and the Family** (3) Tropea
Comparative approach to power and violence in family systems. Analysis of devaluation of family relations. Critical survey of explanations of violence and responses made to it. (Fall)
- 135 **Youth and Delinquency** (3) Chambliss, Courtless, Tropea
A criminal justice course. Analysis of historical, economic, and social conditions affecting both difficulties in socializing youth and the evolution of the state's formal systems of control. (Spring)
- 136 **Criminology** (3) Chambliss, Tropea, Courtless
A criminal justice course. Nature and distribution of crime as related to the development and operation of criminal law and various social and legal institutions in urban society. Analysis of the historical, social, legal, and cultural conditions affecting the nature of crime, criminality, and the development of state responses made to it. (Fall)
- 137 **Sociology of Law** (3) Chambliss, Courtless, Tropea, Weitzer
A criminal justice course. Law as a social phenomenon and agency of social control. Special emphasis is placed on study of the sources of and challenges to the legitimacy of law. (Fall)
- 138 **Alcohol, Alcoholism, and Society** (3) Langton
An overview of alcohol use and abuse in American society; impact on work, family, and crime; policies and legislation for social control of problem drinking and alcoholism. (Spring)
- 139 **Deviance and Control** (3) Chambliss, Tropea, Courtless, Weitzer
A criminal justice course. Analysis of the creation of deviance through collective definitions and responses. Development of a perspective on processes of becoming deviant. (Spring)
- 140 **Social Research Methods** (3) Tuch
Introduction to basic research methods in sociology. Topics include research design, sampling, measurement, and elementary data analysis via computer application. (Fall)
- 141 **Techniques of Data Analysis** (3) Tuch
Continuation of Soc 140. Examination of a range of topics in the statistical analysis of sociological data, with a strong emphasis on computer applications. Prerequisite: Soc 140. (Spring)
- 143 **Social Movements** (3) Stephens
General survey of the various forms of collective behavior (fads, panics, riots, social movements, etc.), and a more detailed study of the genesis, development, and decay of social movements and social revolutions. (Spring)
- 144 **Sociology of Terror** (3) Courtless, Chambliss
Examination of contemporary terrorism, using historical and sociological perspectives. The state and terrorism (the state as terrorist, state-supported terrorism, and the limitations and possibilities of state response to the threat of terrorism). (Spring)
- 152 **Field Experience in Sociology** (9) Staff
Development of a comprehensive perspective and applied skills in selected social systems through seminars, readings, research, and field placement. Re-

- quires 16 hours of field work weekly. Recommended for juniors and seniors. Open to all but majors in criminal justice. Topics include health, aging, family. (Fall or spring)
- 155 **Sociology of Sex and Gender** (3) Wallace, Lengua
The roles of women and men from social structural and social psychological perspectives. Analysis of gender inequality in such areas as the family, workforce, the media, politics, law, religion, and education. (Fall)
- 181 **Special Topics in Sociology** (3)
Analysis and examination of various processes in society of general importance to the field of sociology, e.g., social conflict, socialization, social change. Changes each semester; may be repeated for credit. Admission by permission of instructor. (Fall)
- 191 **Senior Seminar** (3)
A final review of the field for sociology majors nearing graduation. The course emphasizes the integration of theory and research, critical reflection and evaluation, and recent developments in sociology. Required for all sociology majors. Prerequisites: Soc 103, 140, and 141. (Fall and Spring)
- 192 **Field Experience in Criminal Justice** (9) Courtless, T.
(Formerly Soc 151)
Experientially based learning of the administration of justice through field placements in legislative and policymaking domains and in institutions of justice and criminal justice. Academic evaluation predicated on independent research, journals, and seminar participation. Sixteen hours of field work and four hours of seminar required weekly. Admission by permission of criminal justice advisors. (Fall, spring, and summer)
- 195 **Research** (1, 2, or 3)
Independent study and special projects. Open only to selected undergraduate students with promising academic records. Before students are permitted to register for Soc 195, they must submit a written proposal of their plan of study for the approval of the staff member of the department who will be directing the research. (Fall and spring)

Third Group

- 203 **Social Organization** (3)
Introduction to sociological concepts and perspectives. An examination of empirical studies that utilize different theoretical perspectives. Recommended for students offering sociology as a supporting field. (Fall)
- 210 **Theoretical Foundations of Political Sociology** (3) Lengua
Sociological theory on the relationship of politics to the wider social system. Emphasis on concepts of power, alienation, ideology, political stability, conflict, and change.
- 220 **Seminar: Sociology of Religion** (3) Wallace, Lengua
Analysis of theoretical and empirical approaches to the study of religion as a social phenomenon. Both classical and contemporary contributions will be examined. Among the topics are secularization, new religious movements, and modern religious organization. (Spring, even years)
- 225 **Theories of Social Change** (3) Lengua
Review of sociological writings on modernity—its emergence in the North Atlantic societies, its consequences for third world societies, and its future. (Spring)
- 230 **Sociological Research Methods** (3)
Systematic survey of sociological research strategies and review of the literature in this area. Recommended for students with only one undergraduate course in research techniques. Prerequisite: Mgt 225 or equivalent. (Fall)
- 231 **Seminar: Advanced Research Methods** (3)
Intensive study and evaluation of a few sophisticated research techniques and new developments in the methodology of social research. Prerequisite: Soc 230. (Spring)

- 232 **Qualitative Methodology: Doing Field Research** (3) Langton, Weitzer
Practical application of data collection methods in natural settings; observation, participant observation, and field experience. Emphasis on implementing research projects by using these methods for purposes of developing empirically grounded theory.
- 235 **Seminar: Sociology of Education** (3) Wallace, Tropea
Sociological theories on relationships between education and the economic, political, social, and cultural character of society; examination of social factors relating to such topics as educational achievement, the changing functions of educational structures, and the roles of teacher and student. (Spring, odd years)
- 238 **Seminar: Development of Sociological Theory** (3) Lengermann
Development of sociology from the early 1800s to the 1920s. Intensive analysis of the classical theoretical statements. (Fall)
- 239 **Seminar: Modern Sociological Theory** (3) Lengermann, Wallace
Intensive examination and evaluation of contemporary schools of sociological theory in Europe and America. Advanced analysis of theoretical perspectives. Prerequisite: Soc 238. (Spring)
- 240 **Sociology of Work and Occupations** (3) Langton
Review of major theoretical and empirical developments in industrial sociology; varying approaches to the study of work and occupations. (Fall)
- 241 **Sociology of Work and Organizations** (3) Langton
Theory of complex organizations relative to work in industry, government, and business; examination of basic processes such as decision making, recruitment, allocation of authority, informal organization, and interorganizational relations. (Spring)
- 242 **Seminar: Medical Sociology** (3) Langton
Study of the social structure of health care and the interplay of the various health professions; examination of social factors and processes related to the etiology and treatment of illnesses. (Fall)
- 245 **Seminar: Race Relations** (3) Tuch
Systematic analysis of race relations and inequality, primarily in the United States. Topics include current status and recent trends in inequality, the institutional and organizational patterning of discrimination, the structure of white racial attitudes, theoretical perspectives on race relations, and selected policy issues. (Spring)
- 254 **Evaluative Research** (3) Staff
Systematic survey of conceptualization, design, and practice of evaluative research of social experiments and of simulation and technological forecasting. (Spring, even years)
- 256 **Selected Topics in Social Policy Analysis** (3) Staff
A sociological perspective on selected policy areas, including urban planning, education, family, aging, health, affirmative action, law enforcement, and economic development. Particular policy areas will be rotated year by year. Course may be repeated for credit.
- *259 **Law and Criminology I: Search for the Causes of Criminal Behavior** (3) Chambliss, Courtless, Tropea
Same as Law 478(2). (Fall)
- *261 **Law and Criminology II: Society's Responses to the Criminal Offender** (3) Chambliss, Courtless, Tropea
Same as Law 479(2). (Spring)
- 263 **Seminar: Law and Society** (3) Chambliss, Courtless
Selected problems in law as an instrument of social policy; emphasis on the organization of legal decision-making processes. (Summer)

* Students registering for Soc 259 or 261 make special arrangements with the instructor for supplementary assignments equivalent to 1 additional semester hour. For description of the courses, see the National Law Center Bulletin.

- 265 **Selected Topics in Criminal and Juvenile Justice Policy** (3) Chambliss, Courtless, De
Development of a systematic perspective on policies affecting the juvenile criminal justice systems. Topics will include adjudication, disposition, sion, and sentencing. (Spring, even years)
- 270 **Seminar: Foundations of Social Inequality** (3) Stephens
Review of the principal concepts and theories used to explain social inequality both macro and micro levels. Examination of principal bases of inequality and their representative forms. (Prerequisite course for students electing social equality as a major field.) (Fall)
- 271 **Seminar: Gender and Society** (3) Lengermann, Wal
An examination of quantitative and qualitative research in the field of gender with emphasis on current empirical research. (Fall)
- 272 **Seminar: Theoretical Perspectives on Gender** (3) Lengermann, Wal
Review of significant theoretical writings on gender and gender inequality, with primary focus on contemporary sociological statements. (Spring)
- 280 **The Sociology of Aging** (3) Be
Impact of current demographic changes (size and composition of the aged population) on the existing structure of American society. (Spring)
- 281 **Problems of Growing Old in American Society** (3) Be
Analysis of the bases of the social status of the aged in American society and impact on older people of characteristic situational changes in later life. societal responses to those impact areas defined as social problems. Be
- 290 **Principles of Demography** (3) Be
Same as Econ/Geog/Stat 290.
- 291 **Methods of Demographic Analysis** (3) Be
Same as Econ/Geog/Stat 291.
- 295 **Research** (arr.)
Independent study and special projects. Before permission is granted to register for Soc 295, the student must submit a written plan of study for the approval of the staff member of the department who will be directing the research. May be repeated once for credit. (Fall and spring)
- 299-300 **Thesis Research** (3-3)
(Fall and spring)

Fourth Group

Fourth-group courses are primarily for doctoral students and are offered as the department requires. Other graduate students are permitted at the discretion of the department instructor.

- 332 **Seminar: Processes of Inquiry** (3)
Development and critical review of students' research projects with the objectives of aiding conceptualization and developing research design. Consideration of the interplay between theory and methods. Prerequisite: at least 3 semester hours each of graduate theory and graduate methods. May be repeated for credit. Chambliss, Lengermann, Wal
- 338 **Advanced Seminar: Classical Sociological Theory** (3)
Intensive investigation of special topics in classical sociological theory. Prerequisite: Soc 238 or its equivalent or permission of instructor. (Spring) Chambliss, Lengermann, Wal
- 339 **Advanced Seminar: Modern Sociological Theory** (3)
Intensive investigation of special topics in modern sociological theory. Prerequisite: Soc 239 or its equivalent or permission of instructor. (Fall) Lengermann, Wal
- 342 **Advanced Seminar on Health Policy** (3)
Review of how health policy is made and implemented; how health policy research is done; in-depth review of selected topics and completed policy studies, primarily for students in the medical/health policy field. Prerequisite: Econ 248, Soc 242 or consent of the instructor. (Spring)

- 352 **Selected Topics in Sociology (3)** Staff
Intensive investigation of special topics in sociological research. May be repeated for credit. (Spring)
- 398 **Advanced Reading and Research (arr.)** Staff
Limited to students preparing for the Doctor of Philosophy general examination. May be repeated for credit. (Fall and spring)
- 399 **Dissertation Research (arr.)** Staff (Fall and spring)
Limited to Doctor of Philosophy candidates. May be repeated for credit.

SPANISH

See Romance Languages and Literatures.

SPECIAL EDUCATION

See Teacher Preparation and Special Education.

SPEECH AND HEARING

Professors J.W. Hillis, L.S. Bowling, C.W. Linebaugh (Chair)
Associate Professors M.D.M. Brewer, J.R. Regnell

Bachelor of Arts with a major in speech and hearing science (departmental)—The following requirements must be fulfilled:

1. The general requirements stated under Columbian College of Arts and Sciences.
2. Required courses in related areas—Comm 1; Psyc 121 and 131 (or their equivalent), plus 15 additional semester hours of second-group courses selected from related areas as approved by the major advisor.
3. Required courses in the major—SpHr 11, 101, 102, 103, 104, 108, 118, 119, 120.

Minor in speech and hearing—15 semester hours are required, including SpHr 11, 101, 103, and at least 6 semester hours of second-group courses to be selected from SpHr 102, 104, 108, 118, 119, and 120.

Master of Arts in the field of speech-language pathology and audiology—Prerequisite: the degree of Bachelor of Arts with a major in speech and hearing science from this University, or an equivalent degree, and an appropriate score on the Aptitude Test of the Graduate Record Examination.

Required: the general requirements stated under the Graduate School of Arts and Sciences. The program of study consists of 39 semester hours of approved course work without a thesis or, with the approval of the department, 30 semester hours of approved academic work plus a thesis (equivalent to 6 semester hours). All students must satisfy the competence awarded by the American Speech-Language-Hearing Association and satisfactorily complete the Master's Comprehensive Examination.

As one component of the Master's Comprehensive Examination, all students must take the National Examination in Audiology or in Speech Pathology available through the Educational Testing Service. Students must request the Testing Service to send copies of test scores to the Department of Speech and Hearing to be used in partial fulfillment of the general requirement in the Graduate School of Arts and Sciences for the Master's Comprehensive Examination. Test results must reach the department at least three weeks before graduation.

Speech and Hearing Therapy: See the Speech and Hearing Center.

First Group**11 Voice and Diction (3)**

Development of naturalness, correctness, and clarity in conversation through study of phonetics, rate, volume, pitch, and quality in preparation for performance. Recording fee, \$5. (Fall, spring, and summer)

71 Foundations of Human Communication (3)

An introduction to the fundamental principles of the biology of speech, hearing, and language, language structure and use, and human communicative interaction. Practice in the identification of specific verbal and nonverbal aspects of communication behavior. (Fall)

Second Group**101 Hearing Science (3)**

Anatomy and physiology of the auditory mechanism; basic acoustics and psychoacoustics. Theories of hearing and frequency and intensity perception. (Fall)

102 Neural Substrates of Speech, Hearing, and Language (3)

Neuroanatomy and neurophysiology as they relate to speech, hearing, and language. Emphasis on sensory and motor systems and neuroanatomical correlates of language processing; neurolinguistics. (Spring)

103 Speech Science (3)

Functions of the respiratory, laryngeal, and orofacial structures in normal speech production; physiological and acoustic phonetics. (Fall)

104 Speech and Language Disorders (3)

Survey of the nature and causes of developmental and acquired disorders of speech and language. Emphasis on prevention and effective communication with persons having a speech-language impairment. (Spring)

108 Introduction to Audiology (3)

Survey of the field of audiology, including the measurement of hearing, the nature and causes of hearing impairment, hearing aids and habilitation/rehabilitation of the hearing impaired. Prerequisite: SpHr 101. (Spring)

118 Structure and Analysis of Speech and Language (3)

Semantic, morphologic, syntactic, phonologic, and pragmatic aspects of speech and language. Methods for the analysis of speech and language, including phonetic/phonemic transcription. (Fall)

119 Experimental Analysis of Communication Behavior (3)

Observation and measurement of speaker-listener performance. Review of literature on assessment of speaker-listener behavior; study of acoustic, behavioral, and linguistic properties of speaker intelligibility and credibility; application of behavioral observation and computer technology in identification, measurement, and modification of speaker-listener attributes. Students desiring laboratory credit for this course may register additionally for 1 semester hour of SpHr 196. Prerequisite: Comm 1 or SpHr 11. (Fall)

120 Speech and Language Development (3)

Development of speech, language, and auditory and related cognitive processes. Application of analytic methods to developmental and cultural variations in speech and language. Prerequisite: SpHr 118 or equivalent. (Spring)

196 Independent Study (1 to 6)

Independent research and special projects. Before students are permitted to register for SpHr 196, they must submit a written proposal of the plan of study and obtain approval of the staff member who will direct the study and the department chair.

Third Group**201 Clinical Practicum in Communication Disorders (1 to 3)**

Supervised clinical practice in the evaluation and treatment of speech, language, and hearing disorders; development of treatment plans and writing of evaluation reports.

- and progress reports. Admission by permission of the instructor. May be repeated for up to 6 credit hours. (Fall, spring, and summer)
- 267 **Industrial Audiology** (3) Bowling
Theories and processes pertinent to communicative disorders related to industrial noise. Consideration of hearing conservation programs, environmental assessment, and relevant legislation. (Fall)
- 268 **Selected Topics in Clinical Audiology** (1 to 3) Bowling
Advanced study of selected theoretical and clinical issues. May be repeated, but may not be taken for more than a total of 3 semester hours of credit. (Fall, spring, and summer)
- 269 **Management of Clinical Services in Communication Disorders** (3) Staff
Planning, management, and operation of clinic, hospital, school, and private practice services in speech-language pathology and audiology. Consideration of personnel, financial, and space issues; ethical and legislative concerns. (Fall)
- 270 **Pediatric Audiology** (3) Bowling
Embryologic development of the auditory mechanism. Nature and causes of auditory impairments; audiometric techniques used to measure hearing in children. Laboratory fee, \$7.50. (Spring)
- 271 **Congenital Disorders of Speech Production** (3) Staff
Evaluation and treatment of infants and children with congenital speech disorders, including cerebral palsy and cleft palate. Emphasis on management of prespeech oral motor and feeding impairments. Laboratory fee, \$7.50. (Summer)
- 272 **Disorders of Articulation and Phonology** (3) Staff
Nature, causes, diagnosis, and treatment of developmental articulatory and phonological impairments; identification and modification of regional dialects and foreign accents. Laboratory fee, \$7.50. (Fall)
- 273 **Pediatric Language Impairments: Identification and Diagnosis** (3) Staff
Review of current theoretical approaches to evaluation; differential diagnosis of developmental language delays and disorders; review of available standardized tests; observation and testing experience. Laboratory fee, \$7.50. (Fall)
- 274 **Pediatric Language Impairments: Treatment** (3) Staff
Review of current therapeutic models; use of diagnostic information for designing a treatment plan; monitoring progress; coordinating language remediation with classroom and additional resource support; experience through monitoring ongoing language treatment. Laboratory fee, \$7.50. (Spring)
- 275 **Evaluation and Treatment of Speech Fluency Disorders** (3) Hillis
Procedures for clinical assessment of stuttering and other disorders of speech rate and rhythm. Review of historical and current methods for treatment. Laboratory fee, \$7.50. (Spring)
- 276 **Seminar: Speech Fluency Disorders** (3) Hillis
Consideration of stuttering and other disorders of speech rate and rhythm from developmental, linguistic, physiological, and psychosocial points of view. (Fall)
- 277 **Clinical Aphasiology** (3) Linebaugh
Current neurolinguistic theories. Differential diagnosis and clinical management of aphasia and communicative impairments resulting from right cerebral hemisphere damage, traumatic brain injury, and dementia. Laboratory fee, \$7.50. (Fall)
- 278 **Applied Neurolinguistics** (3) Linebaugh
Neurolinguistic and cognitive processes of language formulation and comprehension. Application of neurolinguistic models to neurogenic communicative disorders. (Summer)
- 279 **Motor Speech Disorders** (3) Linebaugh
Methods for assessing motor speech disorders and their physical, acoustic, and perceptual characteristics. Differential diagnosis and treatment of apraxia of speech, the dysarthrias, and dysphagia. Laboratory fee, \$7.50. (Spring)

- 280 Evaluation and Treatment of Voice Disorders (3)**
Normal anatomy and physiology of the human vocal mechanism. Natural and clinical management of functional and organic voice disorders. Laryngectomy. Laboratory fee, \$7.50. (Fall)
- 281 Seminar: Voice Disorders (3)**
Advanced study of selected theoretical and clinical issues regarding voice disorders. (Summer)
- 283 Aural Rehabilitation (3)**
Habilitation/rehabilitation of the hearing impaired, including auditory training, speech reading, hearing aids, assistive listening devices, communication strategies, and counseling. Laboratory fee, \$7.50. (Fall)
- 284 Clinical Audiology I (3)**
Psychoacoustic principles and methods underlying the assessment of auditory disorders. Anatomy and physiology of the auditory mechanism. Laboratory fee, \$7.50. (Fall)
- 285 Hearing Aids (3)**
Discussion of hearing-aid characteristics and electroacoustic measurements of hearing-aid effectiveness in improving communicative efficiency; procedure for selection and clinical evaluation of hearing aids; counseling of the patient. Laboratory fee, \$7.50. (Spring)
- 286 Electrophysiologic Assessment of Hearing (3)**
Study of electrophysiologic techniques used to assess cochlear and retrocochlear function. Theories and clinical applications of vestibular tests, auditory brainstem-evoked responses, and electrocochleography. Laboratory fee, \$7.50. (Spring)
- 287 Central Auditory Processes (3)**
Factors affecting auditory perception and comprehension. Identification of clinical management of central auditory processing disorders in children and adults. Laboratory fee, \$7.50. (Fall)
- 288 Psychoeducational Management of the Hearing Impaired (3)**
Study of the psychosocial and educational effects of hearing loss. Assessment, remediation, and management approaches related to the education of the hearing impaired. Laboratory fee, \$7.50. (Summer)
- 289 Clinical Audiology II (3)**
Audiological assessment of middle ear function, speech audiometry, and management of diagnostic information. Laboratory fee, \$7.50. (Fall)
- 290 Selected Topics in Developmental Language Disorders (1 to 3)**
Advanced study of selected theoretical and clinical issues regarding developmental language disorders. May be repeated, but may not be taken for more than a total of 3 semester hours of credit. (Summer and fall)
- 292 Research Methods in Speech and Hearing (3)**
Methods for the design and execution of research in speech and hearing research include hypothesis formulation, literature review, proposal preparation, data acquisition and analysis, and preparation of final research reports. Laboratory fee, \$7.50. (Spring)
- 295 Independent Research in Speech, Language, and Hearing (arr.)**
- 299-300 Thesis Research (3-3)**
(Fall and spring)

STATISTICS/COMPUTER AND INFORMATION SYSTEMS

Professors H.W. Lilliefors, A.D. Kirsch (Chair), J.L. Gastwirth, S.W. Greenhouse (Emeritus)
N.D. Singpurwalla, R.T. Smythe, J.M. Lachin III, K.K.G. Lan
Adjunct Professor N.J. Kirkendall
Professorial Lecturers J. Kullback, F. Ponti, W.J. Smith, W.R. Nunn
Associate Professors R.E. Thomas, P.F. Thall, S.E.F. Schlesselman (Research)
Mahmoud, T.K. Nayak, R.P. Bain (Research)
Associate Professorial Lecturers R. Jacob, R.F. Teitel, J.S. Wu
Assistant Professors D.A. Grier, R.G. Epstein, B. Toman, C. Hurley

Bachelor of Arts or Bachelor of Science with a major in statistics (departmental), statistics with an option in computer science (departmental), or computer and information systems (departmental)—The following requirements must be fulfilled:

1. The general requirements stated under Columbian College of Arts and Sciences.
2. Prerequisite courses for all majors—Math 31, 32, 33; Stat 91 (except computer and information systems majors).
3. Required courses for all majors—Math 124; Stat 129, 130.
4. (a) Required courses for the statistics major—Stat 118, 119, 157–58, 189, plus three approved second-group courses in statistics.
(b) Required courses for the statistics major with an option in computer science—Stat 118, 119, 131, 157–58, plus three approved second-group computer related courses. Math 105 is recommended.
5. (c) Required courses for the computer and information systems major—Stat 131, 132, 133, 134, 135, 142, 157–58 or 189–90, plus two approved courses from Stat 145, 146, 147, 148, 149, 150. Math 105 is recommended.
5. Students interested in eventually pursuing a Ph.D. program in statistics are advised to take Stat 190, Math 139 and 140, and two years of a foreign language. Math 157 is also recommended.
6. To assure a balanced program, departmental approval of electives is required for all majors.

Students who seek Special Honors in statistics should check with the Department.

Minor in statistics—18 hours of approved courses in this department, including an introductory statistics course, Stat 118, and one computer course.

Minor in computer and information systems—18 hours of approved courses in this department, including Stat 129, 130, and 131, and two additional computer courses selected with approval of advisor as well as one course in statistical methods. One year of calculus is recommended.

Master of Science in the field of applied statistics, Master of Science in the field of statistical computing, or Master of Arts in the field of mathematical statistics—The program of study consists of 30 to 36 semester hours of course work without a thesis. In exceptional cases the department may approve a program of study consisting of 24 to 30 semester hours of course work plus a thesis, equivalent to 6 additional semester hours. Candidates must pass a written Master's Comprehensive Examination. For prerequisites and additional requirements, see below.

Master of Science in the field of applied statistics—Two options are provided: a general curriculum in applied statistics and a concentration in biostatistics. Prerequisite: Math 31, 32, 33, and 124; Stat 118.

Required: the general requirements stated under the Graduate School of Arts and Sciences and 30 to 36 semester hours of course work. If the student has not previously had Stat 119 or equivalent, the program must include Stat 221 or 217–18. Courses are selected in consultation with the advisor.

(a) General curriculum in applied statistics—The core curriculum includes Stat 201–2 and 210. An additional 21 semester hours must be chosen in consultation with the advisor.

(b) Concentration in biostatistics—The core curriculum includes Stat 187, 201–2, 210, 225–26, 227, 231. Twelve additional semester hours are electives of which 6 hours must be in statistics and 6 hours must be in health sciences or related areas. All electives must be approved by the advisor.

Master of Science in the field of statistical computing—Prerequisite: Math 31, 32, 33, and 124; Stat 118, 130, 131, and 132, or demonstrated proficiency in advanced programming techniques.

Required: the general requirements stated under the Graduate School of Arts and Sciences and 30 to 36 semester hours of course work. The 24-hour core consists of 201–2, 203, 204, 207–8, 210, and 283. Students entering the program without a strong background in statistics will be expected to take at least 3 semester hours of options in statistics.

Master of Arts in the field of mathematical statistics—Prerequisite: a bachelor's degree with a major in statistics from this University, or an equivalent degree. If undergraduate study did not include equivalent required courses, those courses must be taken as prereq-

quisite to graduate study. Additional prerequisites include Math 139 and 140. Under circumstances some prerequisites may be waived; check with the department.

Required: the general requirements stated under the Graduate School of Sciences, including Stat 201-2 and 217-18. The remaining 18 semester hours are selected in consultation with the advisor.

Doctor of Philosophy in the field of statistics—Prerequisite: A master's degree in statistics or a related discipline. The main requirement is a strong background in mathematics including courses in advanced calculus, linear algebra, and mathematical statistics (equivalent to Stat 201-2). Some deficiencies may be made up concurrently during the student's first year. In some instances, a student may enter the Ph.D. program with a bachelor's degree.

Required: The general requirements stated under the Graduate School of Arts and Sciences, including satisfactory completion of (1) Stat 201-2, 217-18, 257, 258, 263, and a minimum of 24 additional semester hours as determined by consultation with the departmental doctoral committee; (2) proficiency in computer languages as demonstrated by course work or an examination; (3) the General Examination, consisting of two parts: (a) a written qualifying examination that must be taken within 24 months from the date of enrollment in the program and is based on the four-course core (Stat 257, 258, 263, 264); (b) an examination to determine the student's readiness to carry out the proposed dissertation research; and (4) a dissertation demonstrating the candidate's ability to do original research in one of the following fields: Bayesian inference, biostatistics, design of experiments, multivariate analysis, nonparametric statistics, probability (theoretical or applied), reliability theory, robust methods, sampling, statistical inference, stochastic processes, and time series.

Departmental prerequisite: One entrance unit in algebra is prerequisite to all first-year courses in statistics.

First Group

- *51 **Introduction to Business and Economic Statistics** (3)
Lecture (3 hours), laboratory (1 hour). Frequency distributions, descriptive statistics, measures, probability, probability distributions, sampling, estimation, tests of hypotheses, regression and correlation, index numbers. (Fall and spring)
- *53 **Introduction to Statistics in Social Science** (3)
Lecture (3 hours), laboratory (1 hour). Frequency distributions, descriptive statistics, measures, probability, sampling, estimation, tests of hypotheses, regression and correlation. (Fall and spring)
- *91 **Principles of Statistical Methods** (3)
Probability, frequency distributions and their characteristics, descriptive statistics, measures, estimation, tests of hypotheses, regression and correlation. Primarily for students in the natural sciences. (Fall)

Second Group

- 103 **Sampling in Accounting** (3)
Special emphasis on applications of sampling techniques and design to accounting problems. Prerequisite: Stat 51, 53, 91, or equivalent. (Fall and spring)
- *104 **Statistics in Management, Administration, and Policy Studies** (3)
Lecture (3 hours), laboratory (1 hour). Introductory study of statistical techniques for research problems. For graduate students in fields other than statistics who have no previous statistics training. Offered off campus only.
- 105 **Statistics in the Behavioral Sciences** (3)
Lecture (3 hours), laboratory (1 hour). Advanced study of statistical techniques for research problems. Analysis of variance, correlation techniques.

* Stat 51, 53, 91, 104, 111, and 127 are related in their subject matter, and credit for only one of six may be applied toward a degree.

- parametric techniques, sampling theory. Prerequisite: Stat 53, 104, or equivalent, and satisfactory performance on a placement examination. (Fall and spring)
- *111 **Business and Economic Statistics I** (3) Staff
Descriptive statistics, graphical methods, probability, special distributions, random variables, sampling, correlation, estimation and confidence intervals, hypothesis testing. (Fall)
- 112 **Business and Economics Statistics II** (3) Staff
Continuation of Stat 111, with emphasis on techniques of regression, chi-square, sampling designs, index numbers, and other topics used in economics and business. Prerequisite: Stat 111 or equivalent. (Spring)
- 118 **Regression Analysis** (3) Thall, Lilliefors
Lecture (3 hours), laboratory (1 hour). Simple and multiple linear regression, partial correlation, residual analysis, stepwise model building, multicollinearity and diagnostic methods, indicator variables. Prerequisite: 3 semester hours selected from Stat 51, 53, 91, 104, 127. (Fall and spring)
- 119 **Analysis of Variance** (3) Staff
Lecture (3 hours), laboratory (1 hour). Introduction to the design of experiments and analysis of variance; randomized block, factorial, Latin square designs, and analysis of covariance. Prerequisite: Stat 118. (Spring)
- 121 **Contingency Table Techniques** (3) Staff
Analysis of multidimensional contingency tables, including estimation, tests of hypotheses, and log-linear regression. Prerequisite: Stat 118 or permission of instructor. (Spring)
- 123 **Introduction to Econometrics** (3) Staff
Same as Econ 123.
- *127 **Statistics for the Biological Sciences** (3) Staff
Introduction to statistical techniques and reasoning applicable to the biomedical and related sciences. Properties of basic probability functions: binomial, Poisson, and normal. Data analysis, inference, and experimental design. (Fall and spring)
- *129 **Introduction to Computing** (3) Staff
Computer and programming concepts; algorithm development. Emphasis on careful construction and implementation of programs using structured programming techniques and a high-level language. (Fall and spring)
- 130 **Computer Programming** (3) Thomas and Staff
Development of advanced computing ideas: records, recursion, sets, pointer variables and dynamic storage. Introduction to data structures: stacks, queues, linked lists, and binary search trees. Prerequisite: Stat 129 or equivalent. (Fall and spring)
- 131 **Data Structures and Algorithms** (3) Thomas
Analysis of algorithms. Abstract data types. Development and application of advanced data structures; priority queues, multilinked lists, sparse matrices, B-trees, tree balancing, and graphs. Sorting and searching algorithms. Prerequisite: Stat 130 or equivalent. (Fall and spring)
- 132 **Introduction to Discrete Structures** (3) Mahmoud
Joint offering of the Statistics and Mathematics Departments. Discrete structures and associated mathematical tools. Topics include sets, functions, relations, directed and undirected graphs, propositional calculus, Boolean algebras, with applications to computer science. Prerequisite: Stat 130 and Math 31. (Fall)
- 133 **Computer Organization and Assembly Language** (3) Jacob
Data representation and arithmetic; computer structure and machine language; computer architecture. Assembly language; addressing techniques; file input and output. Study of an actual small computer. Prerequisite: Stat 130. (Fall)

* Stat 51, 53, 91, 104, 111, and 127 are related to their subject matter, and credit for only one of the six may be applied toward a degree.

† Credit will not be given for both Stat 129 and 197.

- 134 Operating Systems (3)**
Techniques for handling simultaneous processes; dynamic procedure activation; synchronization and mutual exclusion; semaphores. Operating system design methodologies; abstract data types; monitors; kernels. Memory management; memory hierarchy; paging. Recovery procedures. Prerequisite: Stat 133. (Spring)
- 135 Survey of Programming Languages (3)**
Structured and nonstructured languages; list-structured languages; pattern matching and symbol manipulation languages; interpretive and interactive languages; variable binding. Prerequisite: Stat 131. (Spring)
- 142 Introduction to Automata Theory (3)**
Finite state automata. Turing machines and computability; universal Turing machine; computable and noncomputable functions; halting problem; computational complexity. Formal grammars and their relationship to automata. Prerequisite: Stat 130 and Math/Stat 132. (Spring)
- 145 Compiler Design (3)**
Grammars, languages, syntax, and semantics. Lexical analysis; symbol tables; context-free language parsing techniques; code generation. Prerequisite: Stat 131. (Spring)
- 146 Design and Development of Software (3)**
Design techniques; structured programming; code reading; stepwise refinement; top-down design; information hiding; coupling and cohesion. Development of a multicomponent software project by students. Prerequisite: Stat 131. (Fall)
- 147 Artificial Intelligence (3)**
Representation of knowledge; notational systems such as logics, programming languages, trees, and networks; LISP. Search strategies; heuristics; production rule systems. Algorithms used in AI; natural language processing, vision; manipulator operation, theorem proving, problem solving. Prerequisite: Stat 131. (Fall)
- 148 Database Systems (3)**
Sequential file processing; random access storage. Hierarchical, network, and relational data models. Data normalization; data description languages; query facilities. File and index organization; inverted files. Data integrity and reliability; computer security. Prerequisite: Stat 130. (Spring)
- 149 Simulation and Modeling (3)**
Discrete simulation of real-world systems. Simulation techniques and languages; queues; event-driven simulation systems. Analysis of algorithms; prediction of system performance; queuing theory. Prerequisite: Stat 130; some statistics. (Spring)
- 150 Senior Seminar (3)**
Advanced topics in computer science. Faculty present examples of current research work in computer science. Students work individually with a faculty advisor. Prerequisite: Senior standing or permission of department.
- 153-54 Mathematical Models in Population Genetics (3-3)**
Basic elements of genetics and cell reproduction, deterministic models of gene frequency; and Hardy-Weinberg law; effects of mutation, migration, and selection on gene frequency; multiple loci and multiple allele models; inbreeding; Fisher's fundamental theorem of natural selection; stochastic models of change in gene frequency, including methods of direct product branching processes and diffusion equation methods.
- 157-58 Introduction to Mathematical Statistics (3-3)**
Distribution theory, sampling theory, estimation, hypothesis testing, regression analysis, experimental design. Prerequisite: Math 31 and 32 or equivalent. (Academic year)
- 160 Mathematical Statistics for Economics Students (3)**
Preparation for Stat 275. Prerequisite: Math 31 and 32 or equivalent.
- 181 Applied Time Series Analysis (3)**
Autoregressive integrated moving average (ARIMA) modeling and forecasting of univariate time series. Estimation of spectral density functions, white noise tests.

and tests for periodicities. Theory and applications using SAS on the GWU computer. Prerequisite: Math 33, Stat 157-58 or 118. (Fall)

- 183 **Intermediate Statistical Laboratory: Statistical Computing Packages (3)** Grier, Toman, Hurley

Application of program packages (e.g., SAS, SPSS, Biomed) to the solution of multivariate statistical problems. Basic concepts in data file preparation/manipulation, analytical techniques, and interpretation of results. Prerequisite: an introductory statistics course. (Fall and spring)

- 187 **Introduction to Sampling (3)** Staff
Problems of sampling and sample design. Prerequisite: Stat 91 or equivalent. (Fall)

- 188 **Nonparametric Statistical Inference (3)** Staff
Statistical inference when the form of the underlying distribution is not fully specified. Nonparametric procedures for estimation and testing hypotheses. An introduction to robust procedures. Prerequisite: Stat 91 or equivalent. (Spring, odd years)

- 189-90 **Mathematical Probability and Applications (3-3)** Staff
Combinatorial analysis, conditional probability, stochastic independence, probability distributions, random variables, laws of large numbers. Prerequisite: differential and integral calculus. (Academic year)

- 193 **Questionnaire Design (3)** Staff
Principles and procedures for developing effective questionnaires for mail, telephone, and personal interview surveys. Prerequisite: Stat 187 or equivalent, or permission of instructor.

- 195 **Reading and Research in Statistics (arr.)** Staff
May be repeated once for credit. (Fall and spring)

- *197 **Data Analysis Tools and the Personal Computer (3)** Thomas
Study of support tools for data analysis and research. Topics in statistics, mathematics, computer programming, graphics, word processing, editing, text formatting, spread sheets, and data base. An individual project related to current research or work environment is required of each student. All work is done on a personal computer. This course satisfies the computer tool requirement. Prerequisite: Stat 118; or Math 32; or permission of instructor.

- 198 **Special Topics (3)** Staff
Topic to be announced in the *Schedule of Classes*. May be repeated for credit provided the content differs.

Third Group

- 201-2 **Mathematical Statistics (3-3)** Lilliefors
Distribution theory, sampling theory, estimation, sufficient statistics, hypothesis testing, analysis of variance, multivariate normal distribution. Prerequisite: Math 33 and 124. (Academic year)

- 203 **Fundamental Algorithms and Their Analysis (3)** Mahmoud
Basic tools for the study of algorithms, including asymptotic analysis and recurrence relations. Graphs and their representation in a computer. Some NP-complete graph problems. Open to qualified seniors. Prerequisite: Math 124; Math 113; Stat 131.

- 204 **Expert Systems (3)** Staff
Advanced study of machine intelligence, with special emphasis on expert systems. Topics include advanced systems for problem solving and automated reasoning, reasoning in the presence of uncertainty, search control, backward and forward rule chaining, connectionist artificial intelligence. Prerequisite: Stat 147. (Spring)

- 206 **Multivariate Methods in the Behavioral Sciences (3)** Kirsch
Application of multivariate analysis to data of the social sciences. Techniques covered include factor analysis, cluster analysis, discriminant analysis, and

* Credit will not be given for both Stat 129 and 197.

- other topics. Prerequisite: Stat 105 or 118, and prior permission of the instructor. Not open to graduate students in statistics.
- 207 **Methods of Statistical Computing I (3)** Lillie
Error analysis, computational aspects of linear models, sweep operator, random number generation, simulation, resampling. Optimization, numerical integration (Gaussian quadrature, Simpson's rule); E-M algorithm. Prerequisite: Stat 118, 129, 201-2; Math 124.
- 208 **Methods of Statistical Computing II (3)** Grier
Generalized curve fitting, splines, spline smoothers; numerical linear algebra including matrix decomposition and eigenvalue problems; optimization techniques, including maximum likelihood estimation; graphics for data display including projections, convex hulls, point clouds, hidden line removal.
- 210 **Data Analysis (3)** Lachin, Thall
A study of statistical methods for data analysis, using computerized statistical procedures. Multiple regression and the general linear model, discrimination and classification, the analysis of contingency tables, and nonparametric methods. Prerequisite: Stat 118 and either Stat 183 or 197 or demonstrated proficiency in computer programming. (Spring)
- 215-16 **Applied Multivariate Analysis (3-3)** Staff
Application of multivariate statistical techniques to multidimensional research data from the behavioral, social, biological, medical, and physical sciences. Prerequisite: Stat 119, 157-58, and Math 124. (Alternate academic years)
- 217-18 **Advanced ANOVA and Experimental Design (3-3)** Thall, Tomal
Advanced theory and application of general linear parametric model to experimental designs, estimation, and hypothesis testing. Prerequisite: Stat 157-58 or 201-2; Math 124. (Academic year)
- 221 **Design of Experiments for Behavioral Sciences (3)** Kirsch, Tomal
Applications of advanced experimental design to research problems in behavioral sciences and education. Prerequisite: Stat 105 or 118 or equivalent and permission of instructor. Not open to graduate students in mathematical statistics. (Spring)
- 223 **Bayesian Inference (3)** Singpurwalla
Systematic development of Bayesian viewpoint, with applications to the classical problems of statistics. Prerequisite: Stat 201-2.
- 225 **Fundamentals of Biostatistics (3)** Lachin, Lan
Statistical methods for the design and analysis of biomedical research studies including the randomized clinical trial and other observational and epidemiological studies. Evaluation of power and sample size, randomization, analysis of binary data and logistic regression. Prerequisite: Stat 201-2 or permission of instructor. (Fall, alternate years)
- 226 **Advanced Biostatistics (3)** Lachin, Lan
Parametric and nonparametric statistical methods for the analysis of longitudinal data (repeated measures). Empirical Bayes methods. Methods for sequential analysis of emerging data, including group sequential analysis, Bayesian methods, and stochastic curtailment. Prerequisite: Stat 201-2 or permission of instructor. (Spring, alternate years)
- 227 **Survival Analysis (3)** Lachin, Lan, Smythe
Parametric and nonparametric methods for the analysis of events observed in time (survival data), including Kaplan-Meier estimate of survival functions, logrank and generalized Wilcoxon tests, the Cox proportional hazards model and an introduction to counting processes. Prerequisite: Stat 201-2 or permission of instructor. (Fall, alternate years)
- 231 **Contingency Table Analysis (3)** Staff
A study of the theoretical bases underlying the analysis of categorical data. Prerequisite: Stat 201-2 or 257-58.
- 242 **Advanced Statistical Problems in Economic Analysis (3)** Gastwirth
Applications of advanced theory to economic data.

- 257 **Probability** (3) Smythe
Probabilistic foundations of statistics, probability distributions, random variables, moments, characteristic functions, modes of convergence, limit theorems, probability bounds. Prerequisite: Stat 201-2, knowledge of calculus through functions of several variables and series. (Fall)
- 258 **Distribution Theory** (3) Gastwirth
Special distributions of statistics, small and large sample theory, order statistics, and spacings. Prerequisite: Stat 257. (Spring)
- 259-60 **Advanced Mathematical Probability** (3-3) Staff
Measure theory, probability spaces, random variables, probability distributions, sequences and sums of random variables, conditioning, limit theorems, martingales. Prerequisite: advanced calculus and permission of instructor. (Alternate academic years)
- 261 **Sequential Design and Analysis** (3) Staff
Wald's theory of sequential designs, optional stopping, choice of sequential experiments. Prerequisite: Stat 201-2.
- 262 **Nonparametric Inference** (3) Staff
Inference when the form of the underlying distribution is unspecified. Prerequisite: Stat 201-2.
- 263 **Advanced Statistical Theory I** (3) Nayak
Linear models, decision theoretic estimation, classical point estimation. Prerequisite: Stat 201-2. (Fall)
- 264 **Advanced Statistical Theory II** (3) Nayak, Smythe
Asymptotic theory, hypothesis testing, confidence regions. Prerequisite: Stat 201-2, 257. (Spring)
- 265 **Multivariate Analysis** (3) Nayak
Multivariate normal distribution. Hotelling's T^2 and generalized T^2 , Wishart distribution, discrimination and classification. Prerequisite: Stat 201-2 and Math 124.
- 266 **Topics in Multivariate Analysis** (3) Staff
Multivariate analysis of variance, principal components, canonical correlation, factor analysis. Prerequisite: Stat 265.
- 273-74 **Stochastic Processes** (3-3) Staff
Fundamental notions of Markov chains and processes, generating functions, recurrence, limit theorems, random walks, Poisson processes, birth and death processes, applications. Prerequisite: Stat 189-90, and 201-2 or 257-58. (Alternate academic years)
- 275 **Econometrics I: Introduction** (3) Staff
Same as Econ 275. (Fall)
- 276 **Econometrics II: Simultaneous Equations Models** (3) Staff
Same as Econ 276. (Fall)
- 279 **Methods in Economic Statistics** (3) Gastwirth
Application of statistical methods to economic data. Univariate and multiple regression and nonparametric techniques are used to analyze economic data. Measures of inequality, economic concentration, and forecast accuracy are discussed. Prerequisite: a one-year course in statistics. (Fall)
- 281 **Advanced Time Series Analysis** (3) Kirkendall
Autoregressive integrated moving average (ARIMA) modeling and forecasting of univariate and multivariate time series. Statespace or Kalman filter models, spectral analysis of multiple time series. Theory and applications using the University computer. Prerequisite: Math 33, Stat 201-2 or equivalent. (Spring)
- 282 **Time Series Analysis II: Statistical Inference** (3) Staff
Multivariate normal processes, spectral estimation, tests of hypotheses, regression, discrimination filtering, spectral analysis of variance. Prerequisite: Stat 281.
- 283 **Advanced Statistical Packages** (3) Grier
Use of advanced computer systems to solve statistical problems. Extension of concepts of Stat 183, including macro programming, multivariate analysis, ex-

- ploratory data analysis, interactive computer graphics, symbolic mathematics. Examples of possible packages include S, GLIM, SAS, MacSyma. Prerequisite: Stat 183 or 210 or permission of instructor.
- 287-88 **Modern Theory of Sample Surveys (3-3)**
Application of statistical theory to the sampling of finite populations. Simple stratified, cluster, double and subsampling. Special topics, including super-populations and randomized response. Prerequisite: Stat 91 and Math 32 or equivalent. (Academic year)
- 289 **Seminar (3)**
Admission by permission of instructor. (Fall and spring)
- 290 **Principles of Demography (3)**
Same as Econ 290.
- 291 **Methods of Demographic Analysis (3)**
Same as Econ 291.
- 295 **Reading and Research (3)**
May be repeated once for credit. (Fall or spring)
- 297 **Problems in Mathematical Statistics (3)**
- 298 **Seminar: Special Topics (3)**
- 299-300 **Thesis Research (3-3)**
(Fall and spring)

Fourth Group

- 378 **Seminar: Topics in Econometrics (3)**
Same as Econ 378.
- 398 **Advanced Reading and Research (arr.)**
Limited to students preparing for the Doctor of Philosophy general examination. May be repeated for credit. (Fall and spring)
- 399 **Dissertation Research (arr.)**
Limited to Doctor of Philosophy candidates. May be repeated for credit. and spring)

TEACHER PREPARATION AND SPECIAL EDUCATION

Professors R.K. Ives, J.R. Shotel, M.S. Castleberry, R.N. Ianacone (Chair), G.L. Horowitz, A.J. Mazur, N.J. Belknap, M.B. Freund, H. Wachs (Research)
Associate Professors J.M. Taymans, L.R. Putnam, L.L. West
Assistant Professors L.H. Cuenin, S.S. Beck (Visiting), L.H. Mauro, N.B. Paley, M. Garza Lubeck
Adjunct Assistant Professors S.M. Cahill, P. Dupont, C.A. Kochhar, G.P. Tilson
Instructors M.H. Futrell, S. Ives (Visiting)
Adjunct Instructors M.A. Lucia, M.L. Ortenza, A.M. Soloman, J.A. Wagner
Director of the Reading Center F. Hesser

See the School of Education and Human Development for programs of study leading to the degrees of Bachelor of Arts in Education and Human Development, Master of Arts in Education and Human Development, Master of Education, and Doctor of Education.

TEACHER EDUCATION

First Group

- 9 **Techniques for Acquiring Meaning from College Texts (0)**
The course is divided into three modules, which may be taken in sequence or individually. Acquisition, retention, and utilization of meaning. Analysis and synthesis of information into verbal and written discourse. Each student receives an evaluation of his or her college-level reading ability. Placement testing is required, for which a \$10 fee is charged. Tuition is charged at the rate of 1 credit hour for each module.

- 50 **Introduction to Education and Human Services** (3) Beck
The scope of education and human services is defined from historical, philosophical, and cross-cultural perspectives. Field trips and group field experience. (Fall and spring)

Second Group

TrEd 136 through 146 are special methods courses in secondary education that are to be taken after substantial preparation in the teaching fields concerned. Prerequisite to all special methods courses: TrEd 131; admission by permission of program coordinator.

- 105 **Social Issues in Education and Human Services** (3) Paley
Historical and social development of education and human services; evolution of American education related to the growth of the nation and the changing social order; examination of selected issues in contemporary education and human services.
- 110 **Elementary School Teaching of Reading** (3) Horrworth
Introduction to methods, techniques, materials, and activities essential to a good elementary school reading program. Fieldwork is required. Prerequisite: Educ 104 and TrEd 105 or teaching experience.
- 111 **Elementary School Curriculum and Methods** (2 to 15) Beck, Paley
A comprehensive block course with subsections in mathematics, science, language arts, social studies, music, art, and physical education. Pre-student teaching three days a week. Prerequisite: Educ 104, 171, 172; TrEd 105; and senior standing. Material fee: \$10 per subsection. (Fall)
- 118 **Elementary Reading: Classroom Diagnosis and Instruction** (3) Putnam
Emphasis on the interconnections among teaching, learning, and diagnosis within the reading program. Prerequisite: TrEd 110 or equivalent. (Fall)
- 128 **Children's Literature** (3) Putnam
Landmark works in the various genres of children's literature; strategies for integrating literature into the school curriculum. (Spring)
- 131 **Secondary School Principles and Methods** (3) Mauro, Garza-Lubeck
Classroom management and teaching techniques for initiating, guiding, and evaluating learning activities. Group work to be arranged. Prerequisite: Educ 104. Material fee, \$40. (Fall and spring)
- 132 **Student Teaching in Early Childhood Schools** (3 or 6) Beck, Paley
For seniors. Supervised teaching in selected prekindergarten or kindergarten class in accredited school; seminar. Admission by permission of instructor. Prerequisite: TrEd 111 or equivalent; TrEd 150, 152, 153, 154. (Spring)
- 134 **Student Teaching in Secondary Schools** (6) Mauro, Garza-Lubeck
Admission by permission of instructor. Prerequisite: Methods course in subject area. (Fall and spring)
- 135 **Student Teaching in Elementary Schools** (6 or 12) Beck, Paley
Supervised teaching in an elementary school. Required seminar. Admission by permission of instructor. Prerequisite: TrEd 111 or equivalent. (Spring)
- 136 **Teaching English in Secondary Schools** (3) Mauro
Lecture (2 hours), fieldwork (2 hours). Prerequisite: 24 semester hours in English. (Fall)
- 138 **Teaching Social Studies in Secondary Schools** (3) Staff
Lecture (2 hours), fieldwork (2 hours). Prerequisite: 24 semester hours of social studies. (Fall)
- 139 **Teaching Art in Secondary Schools** (3) Staff
Lecture (2 hours), fieldwork (2 hours). Prerequisite: 24 semester hours of art. (Fall)
- 140 **Teaching Mathematics in Secondary Schools** (3) Staff
Lecture (2 hours), fieldwork (2 hours). Prerequisite: mathematics through calculus. Material fee, \$25. (Fall)

- 144 **Teaching Science in Secondary Schools** (3)
Lecture (2 hours), fieldwork (2 hours). Prerequisite: 24 semester hours of science. Material fee, \$20. (Fall)
- 146 **Teaching Foreign Languages** (3)
Lecture (2 hours), fieldwork (2 hours). Prerequisite: 24 semester hours of foreign language. (Fall)
- 150 **Foundations of Early Childhood Education** (3)
Historical development, philosophy, and objectives of nursery schools, kindergartens, and day care; exploration of contemporary programs and models with curriculum implications for schools in the United States and abroad. Admission by permission of instructor. (Fall)
- 152 **Early Childhood Curriculum** (3)
Rationale, development, content approaches, programs, and materials in language arts, mathematics, science, health, social studies, and aesthetic education. Admission by permission of instructor. (Fall)
- 153 **Role of the Professional in Early Childhood Education** (3)
Planning, reporting, records, teacher-child and teacher-family interaction, diagnosis and evaluation, working with paraprofessionals and parents. Emphasis on total classroom ecology. Admission by permission of instructor. (Spring)
- 154 **Community Resources and Materials for the Young Child** (3)
Interaction with community agencies and resources for services; equipment, play activities, curriculum materials, and methods for teaching the infant and young child. Admission by permission of instructor. (Spring)
- 197-98 **Research and Independent Study** (3-3)
Individual or group study or research under the guidance of staff members. Program and conferences arranged with advisor. Admission by permission of advisor. (Academic year)

Third Group

Department prerequisite: A degree from an accredited institution and adequate professional preparation are prerequisite to all third-group courses in teacher education. Undergraduate students in their senior year may enroll in third-group courses with permission of the instructor.

- 205 **Foundations of Curriculum Development** (3)
For experienced teachers. Curriculum research and design, issues and trends, comparison of curriculum patterns, curriculum development in subject areas, and consideration of current field-related problems. (Fall)
- 216 **Recent Developments in Teaching Social Studies** (3)
For experienced educational personnel. Research, techniques, materials, and innovative programs relating to the effective teaching of social studies. Admission by permission of instructor.
- 217 **Recent Developments in Teaching Science** (3)
For experienced educational personnel. Research, techniques, materials, and innovative programs relating to the effective teaching of science. Admission by permission of instructor.
- 218 **Recent Developments in Teaching Mathematics** (3)
For experienced educational personnel. Research, techniques, materials, and innovative programs relating to the effective teaching of mathematics. Admission by permission of instructor.
- 220 **Selected Topics in Teacher Education** (arr.)
Topics announced in the *Schedule of Classes*.
- 221 **Developmental Reading: Emergent Literacy** (3)
Focus on research into the literacy experiences and emergent reading and writing behaviors of young children in the first six years of life, along with implications for developing "literate environment" preschool and kindergarten classrooms.

- 222 **Foundations of Reading Development: K-Adult** (3) Horrworth
Basic theories and processes of reading acquisition and development; linguistic, cognitive, developmental, social, and affective bases of reading; varieties and influences of media and instructional strategies.
- 223 **Reading Instruction in Content Areas: Elementary, Intermediate, and Secondary Schools** (3) Horrworth
Emphasis on basic group instructional methods and media; teaching demonstrations of basic reading and study skills in content subjects; study of readability of content materials; research and application of formulas. (Fall)
- 224 **Diagnostic Teaching of Reading: K-6** (3) Horrworth
Classroom teaching and testing techniques for elementary teachers; administration, scoring, and interpretation of informal tests and other measures of evaluation; selecting and planning activities suitable for correction of specific problems. Prerequisite: at least one previous course in reading. (Spring)
- 225 **Measuring Mental Functions** (3) Johnson
Administering, scoring, interpreting, and reporting the Wechsler Intelligence Scale for Children-Revised (WISC-R) and the Wechsler Intelligence Scale for Adults-Revised (WAIS-R). Material fee, \$25. (Fall and spring)
- 226 **Diagnostic Teaching of Reading in Secondary School** (3) Horrworth
Application of instructional strategies and techniques presented in Educ 223 and 224. Construction of informal tests; administering, scoring, and interpreting informal and standardized tests; study and evaluation of materials; teaching strategies for on-grade students and for those with reading problems. (Spring)
- 227 **Current Issues in Elementary Education** (3) Beck
Identification, definition, and analysis of some of the most important problems facing the contemporary American elementary school. (Fall)
- 228 **Instructional Areas in Elementary Education** (3) Beck
Current trends and research in reading, language arts, social studies, mathematics, science, music, art, and physical education. (Spring)
- 230 **Foundations of Early Childhood Education** (3) Staff
Historical developments; philosophy and objectives of nursery schools, kindergartens, and day care centers; exploration of contemporary programs and models, with curriculum implications for schools in the United States and abroad. (Fall)
- 231 **Community Resources and Materials for the Young Child** (3) Staff
Interaction with community agencies for service, resources, and equipment; physical facilities, play activities, curriculum materials, and methods for teaching the infant and young child. (Spring)
- 232 **Early Childhood Curriculum** (3) Staff
Rationale, development, content, approaches, programs, and materials in language arts, mathematics, science, health, social studies, and aesthetic education. (Fall)
- 233 **Role of the Professional in Early Childhood Education** (3) Staff
Planning, reporting, maintaining records, teacher-child and teacher-family interaction, diagnosis and evaluations, working with paraprofessionals and parents. Emphasis on total classroom environment. (Spring)
- 234 **Professional Internship in Secondary Education** (6) Staff
Admission by permission of instructor.
- 235 **Professional Internship in Elementary Education** (9) Staff
- 236 **Analysis of Teaching** (3) Staff
Teaching viewed as a system; component aspects are examined with a view toward developing a critical method of analysis. Material fee, \$25. (Spring)
- 237 **Practicum in Early Childhood Education** (3 to 6) Staff
Supervised professional activity in selected early childhood programs; seminar. Prerequisite: 12 semester hours in early childhood education and permission of instructor. (Fall and spring)

- 238 Clinical Practicum in Reading (3 to 6)**
Supervised clinical experience, including observation and participation, in reading, tutoring, and teaching. Clients may include preschoolers through adolescents. Minimum of 120 clinic hours required. Admission by permission of instructor. Material fee, \$25.
- 241 Education of the Gifted and Talented (3)**
Nature and discovery of giftedness, provision for the gifted in educational settings. Research findings and issues. (Summer)
- 254 The Middle School (3)**
Development, organization, and practices; emphasis on the learner, the teacher, the administrator, the curriculum, and the setting of the school for the adolescent. (Fall)
- 273 Pre-Service Teacher Education (3)**
(Formerly TrEd 373)
Program development, governance, issues, trends. (Fall, alternate years)
- 274 In-Service Planning and Programming (3)**
(Formerly TrEd 374)
The continuing professional development of educators, with focus on the design, implementation, and evaluation of in-service training programs. (Summer)
- 287-88 Clinical Study and Treatment of Reading Problems (3-3)**
Testing and tutoring children and adults with reading problems. A case study approach is emphasized; participants are trained to administer a diagnostic battery of tests, evaluate results, and plan and implement tutoring strategies. Prerequisite: TrEd 222 and 224. Material fee, \$25. (Academic year)
- 289 Organization and Administration of Reading Programs (3)**
For school administrators and reading teachers. Problems in planning, organizing, and monitoring the total reading program. (Spring)
- 290 Severe Learning Disabilities in Reading (3)**
The course links the fields of learning disabilities and reading, focusing on the interconnections in terms of etiology, characteristics, diagnosis, and remediation. (Fall)
- 291 Reading and Writing Across the Curriculum (3)**
A whole-language approach to structuring classroom curriculum: strategies for developing students' reading and writing skills while studying literature, social studies, and science. (Fall and spring)
- 292 Internship: Reading (3 to 6)**
Limited to graduate students in reading education. Experience in a selected area of teaching or supervisory service in field-based programs. Prerequisite: permission of instructor. (Fall and spring)
- 297-98 Research and Independent Study (3-3)**
Individual research under the guidance of a staff member; program and conferences arranged with an instructor. (Academic year)

Fourth Group

- 308 Instructional Processes in Teacher Preparation and Special Education (3)**
Same as SpEd 308.
- 321 Practicum in Curriculum and Instruction (3 to 6)**
Supervised field experience in curriculum. Admission by permission of instructor. Prerequisite: TrEd 205. (Fall and spring)
- 324 Teaching Reading and Study Skills at the College Level (3)**
Evaluation of reading skills at the college level. Development of college reading programs, including diagnostic and teaching techniques, program planning, and implementation. Prerequisite: TrEd 226 or equivalent, and permission of instructor. (Spring)

- 325 **Curriculum Theory** (3) Staff
Examination of reviews and research studies on curriculum theory. Focus on trends, values, interpretations, fads, design systems, and evaluation. Prerequisite: TrEd 205. (Spring)
- 345 **Consultation Skills in Teacher Preparation and Special Education** (3) Ives, Shotel
Same as SpEd 345.
- 370 **Interpersonal Dynamics in Teacher Preparation and Special Education** (3) Ives
Same as SpEd 370.
- 378 **Post-Master's Internship in Curriculum and Instruction** (3 to 6) Staff
Supervised fieldwork for selected experienced teachers. (Fall and spring)
- 390 **Doctoral Seminar in Curriculum and Instruction** (3) Shotel
Review of literature in a topical area; preparation of a manuscript of publishable quality. Admission by permission of instructor. (Fall)
- 391 **Dissertation Research** (arr.) Staff
Prerequisite: TrEd 390.

SPECIAL EDUCATION

First Group

- 57 **Curriculum Development for the Child With Special Needs** (3) Staff
An overview of theory and scope of pre-academic and academic curriculum development as it relates to the special child. (Fall)
- 58 **Curriculum Adaptation for the Child With Special Needs** (3) Staff
Lectures, demonstrations, and experiences designed to develop the student's ability to adapt curriculum and style of presentation to meet the needs of the special child. Prerequisite: SpEd 57. (Spring)

Second Group

- 101 **Design and Implementation of the Special Education Classroom** (3) Mazur
Instructional experiences designed to refine the insights and competencies essential for successful teaching in the special education classroom. (Fall)
- 102 **Practicum in Teaching the Child With Special Needs: Methods and Materials** (3 or 6) Mazur
Laboratory course taught in an elementary public school. Students observe and participate in a demonstration seminar conducted by the instructor. Must be taken concurrently with SpEd 189. Material fee, \$50. (Fall)
- 103 **Practicum: Teaching the Child With Special Needs: Creative Programming** (3 or 6) Mazur
Continuation of SpEd 102. Concentration on the total programming of the child with special needs. Must be taken concurrently with SpEd 190. Material fee, \$50. (Spring)
- 160 **Academic and Psychosocial Assessment of the Elementary-School-Aged Exceptional Child** (3) Mazur
An investigation of the assessment process: theory and scope of psycho-educational assessment, informal and formal assessment, clinical experience in informal assessment, application of diagnostic findings to instructional recommendations. Material fee, \$25.
- 168 **Overview of Handicapping Conditions: Etiology and Symptomatology** (3) Staff
Causes and symptoms of most prevalent handicapping conditions in children who can be mainstreamed.
- 170 **Dynamics of Human Relations: Theory and Practice** (3) Mazur
Discussion of psychosocial theory as it relates to successful interaction with children. (Fall)

- 189 **Preprofessional Internship: Program Adaptation for the Child With Special Needs in the Regular Classroom** (3)
Supervised internship in school setting. Emphasis on intensive study of child with special needs. Must be taken concurrently with SpEd 102. (Fall)
- 190 **Educational Intervention for the Child With Special Needs: Methods and Materials** (3)
Observation and participation in various special education settings. Emphasis on exposure to and familiarity with goals and programs of various special education models. Must be taken concurrently with 103. (Spring)
- 197-98 **Research and Independent Study** (3-3)
Individual or group study or research under the guidance of staff member. Admission by permission of advisor. (Academic year)
- 199 **Practicum in Special Education** (6 to 12)
Supervised teaching internship in a school-based intervention program. Student teaching with children identified as needing special education services. A minimum of 240 clock hours required. Admission by permission of the instructor. (Fall)

Third Group

- 201 **Overview of Special Education** (3)
Survey course to acquaint prospective teachers with special education and help them become aware of the various educational modifications necessary to accommodate children with special needs in a school program. (Fall)
- 220 **Selected Topics in Special Education** (arr.)
Courses on topics relevant to special educators offered to selected groups. (Fall)
- 221 **Accessing Community Systems for the Special-Needs Individual** (3)
Overview of access to community systems and service delivery for individuals with special needs and their families. Material fee, \$25. (Summer)
- 222 **Legislative Issues in Supportive Training, Transition, and Education Programs** (3)
Examination, interpretation, analysis, and monitoring of legislation and policies related to the handicapped. Emphasis on practical strategies for understanding and implementing federal and state legislation and policies. Material fee, \$25. (Fall)
- 229 **Interpretation and Application of Academic and Vocational Assessment Information** (3)
Specific strategies and techniques to analyze, interpret, and synthesize assessment information for the development of comprehensive academic/vocational profiles for handicapped adolescents and adults. Observation and recording procedures, report development, and postassessment conferencing are emphasized. Material fee, \$20. (Summer)
- 230 **Vocational Assessment of Individuals Who Are Handicapped** (3 to 6)
Investigation of the vocational assessment process, including formal and informal systems to determine vocational interests, aptitudes, and employability. Material fee, \$25. (Spring)
- 231 **Transitional Special Education Programming** (3)
Selected techniques and processes used in programming for the needs of handicapped individuals. Emphasis on the development of skills related to professional liaison and support roles in the design of instructional arrangements and cooperative training. Must be taken concurrently with SpEd 233. Material fee, \$20. (Fall)
- 232 **Dynamics of Career Intervention Techniques and Strategies for the Handicapped** (3)
Specific intervention techniques and strategies focusing on career and vocational decision making for handicapped individuals. Emphasis on combining theoretical constructs with practical field experience. Material fee, \$25. (Fall)

- 233 **Curriculum in Transitional Special Education** (3) Taymans
Theory and practice in planning, implementing, and evaluating curriculum for handicapped adolescents and adults. Emphasis on techniques for modifying curriculum and materials for individualized programming. Requires field-site curriculum implementation. Usually taken concurrently with SpEd 231. (Fall)
- 234 **Seminar in Supportive Training, Transition, and Education Programs** (3) Staff
Analysis and development of professional presentation and writing skills. Material fee, \$20. (Spring)
- 235 **Coordination of Job Placement Programs in Special Education** (3) Cuenin
Rationale, resources, and programming strategies for the development and coordination of job placement programs for individuals who are handicapped.
- 236 **Introduction to Career/Vocational and Transitional Services** (3) Staff
Introduction to programs that provide career, vocational, and transition services to handicapped adolescents and adults. Material fee, \$25. (Spring and summer)
- 237 **Learning Strategies, Assessment, and Instruction for Learning Disabled Adolescents** (3 to 6) Staff
Aspects of the provision of effective and appropriate educational services to learning disabled adolescents. Material fee, \$25. (Spring)
- 240 **Developmental Process of Parenting** (3) Freund and Staff
The developmental process of becoming a parent and ongoing parenting. Material fee, \$20. (Fall)
- 242 **Neurodevelopmental Programming for Handicapped Infants and Toddlers** (3 or 6) Staff
Provides students with a theoretical background and practical experience to translate the neurodevelopmental model into techniques for developing and implementing educational programs for handicapped infants and toddlers. Prerequisite: SpEd 263 or 268 or permission of instructor. Material fee, \$30. (Spring and summer)
- 243 **Assessment of the Special-Needs Infant** (3) Freund
Theory and current practice in the assessment of high-risk and handicapped infants. Material fee, \$30.
- 250 **Specialized Techniques and Materials: Transitional Special Education** (3) Cuenin
Specialized instructional techniques and resources in secondary, postsecondary, business, and community programming for individuals who are handicapped. Emphasis on collaborative planning and programming. Material fee, \$25. (Spring)
- 253 **Special Education in Corrections: State of the Art** (3) Staff
An introduction to the delivery of special education services within the juvenile justice and corrections systems. Presentations by theorists and practicing professionals. (Spring)
- 254 **Special Education in Corrections: Field Experiences** (3) Staff
Site visits to local, state, and federal juvenile correction facilities and advocacy organizations, coordinated by a series of seminars tying theory to practice. Emphasis on program structure, goals, and general service delivery for handicapped individuals in correctional education. Material fee, \$20. (Summer)
- 255 **Interdisciplinary Case Management for Special Populations** (3) Staff
Examination of programmatic implications of integrative academic, vocational, medical, and psychological service coordination and case management for special-needs populations. Emphasis on interdisciplinary team communication and coordination, decision making, planning, and follow-up for students and clients in secondary or adult settings. Material fee, \$25. (Spring)
- 256 **Curriculum-Based Methods for Individuals Who Are Handicapped** (3) Staff
Curriculum-based design, implementation, and modification for individuals in special education settings; methodology needed to develop individualized programming. Material fee, \$25. (Summer)

- 258 Microcomputers in Special Education (3 to 6)**
Overview of current microcomputer technology as it relates to handicapped individuals. Review and assessment of computer-assisted instruction software as it relates to training, evaluation, and employment of handicapped individuals. Optional 3 semester hour practicum in a setting employing adaptive devices and microcomputers in the service of handicapped persons. Material fee, \$40. Prerequisite: Educ 180 or equivalent. Castleboro
- 260 Developmental Assessment in Special Education (3)**
Development of assessment skills with academic diagnostic instruments. Study of validity, reliability, nonbiased testing, aptitude, achievement, and appropriate approaches. Material fee, \$40. (Fall) Castleboro
- 261 Practicum: Methods and Materials for Young Exceptional Children (3 or 6)**
Clinical practice in design and implementation of educational strategies and materials. Three dimensions: designing and developing teaching materials, classroom teaching, feedback and evaluation with professor. Requires eight hours a week on site. (Fall and summer) Castleboro
- 262 Formal Assessment of Young Exceptional Children (3)**
Weekly seminar designed to prepare early childhood special educators to translate formal assessment data into instructional programming. Requires fieldwork with children. Material fee, \$25. (Fall) Castleboro
- 263 Development of the Infant with Special Needs (3)**
The processes of normal infant development and interrelationships among areas of development; relationship of these processes to the growth and development of the at-risk child. Material fee, \$25. (Summer) Castleboro
- 264 Educational Implications of Medical and Genetic Conditions of the Developmentally Delayed Child (3)**
Specialized programs, techniques, and methods for teaching developmentally delayed children, with emphasis on genetically linked handicapping conditions. Practitioner needs and programming concerns are stressed. Material fee, \$25. (Spring) Castleboro
- 265 Clinical Experience With Multiply Handicapped and Developmentally Disabled Young Children (3)**
Field experience and accompanying seminar for students with limited experience in early childhood special education. Intensive involvement in an early childhood special education setting. (Summer) Castleboro
- 266 The Development of Language in Exceptional Children (3)**
Introduction to the study of language acquisition and the development of language programs. (Fall) Castleboro
- 268 Development of Young Exceptional Children: General Etiology of Handicapping Conditions (3)**
An in-depth examination of the development of young exceptional children and the specific nature of handicapping conditions. Lecture and field visits. Material fee, \$25. (Fall) Castleboro
- 269 Etiology, Symptomatology, and Approaches to Intervention With Special-Needs Children (3)**
Typical and atypical development of special-needs children. Etiology and symptomatology of handicapping conditions. Extensive field observations. Material fee, \$25. (Spring) Castleboro
- 270 Mainstreaming: Adapting Attitudes, Programs, and Curriculum for Special-Needs Students (3)**
Meeting the needs of the special-needs student in the regular classroom. Material fee, \$20. (Spring and summer) Castleboro
- 271 Interdisciplinary Approach to Planning for the Special-Needs Child (3 or 6)**
Interdisciplinary team functioning and case management using a systems approach. Castleboro

- 273 **Pre-Service Planning and Programming** (3) Staff
Program development, governance, issues, trends. (Fall, alternate years)
- 274 **In-Service Planning and Programming** (3) Staff
The continuing professional development of educators, with focus on the design, implementation, and evaluation of in-service training programs. Material fee, \$25. (Summer)
- 275 **The Limited-English-Proficient Special-Needs Child: Policy, Research, and Trends** (3) Mazur
Issues regarding educational service delivery for the LEP special-needs child. National, state, and local policies; current research in bilingual education, special education, and bilingual special education. Appropriate assessment techniques, accessing community resources, and characteristics and needs of language-minority students and their families. Material fee, \$25.
- 276 **Academic and Psychosocial Assessment of the Limited-English-Proficient Special-Needs Child** (3) Mazur
Issues and implications of second-language learning; the relationship between learning disabilities and problems related to adaptation to a different culture. Students review and evaluate formal and nonformal assessment measures and administer bilingual assessment materials.
- 277 **Teaching the Limited-English-Proficient Student: Methods and Materials** (3) Mazur
Students critique commonly used tests, learn formal and informal assessment strategies and prereferral interventions, and become familiar with curricular and classroom management strategies for use with bilingual students who are handicapped or have special needs. Instructional adaptations designed to meet cultural, linguistic, and academic needs in both mainstream and special classes.
- 278 **Internship: Educational Intervention for the Limited-English-Proficient Special-Needs Child** (3 to 6) Mazur
Supervised internship. Students learn to write culturally relevant IEP programs, conduct effective parent interviews, and relate assessment findings to productive programming.
- 280 **Developmental Assessment of Adolescents** (3) Staff
Formal and informal psychoeducational assessment; assessment instruments commonly used with upper-elementary and junior and senior high school students; the writing of psychoeducational reports. Material fee, \$25. (Spring)
- 285 **Facilitating Essential Systems for the Seriously Emotionally Disturbed Student** (3) Ives
The various systems (home, school, interagency, community) that have an effect on the life of a seriously emotionally disturbed student. Skills necessary to help enable these systems to function in the service of seriously emotionally disturbed students.
- 287 **Interdisciplinary Topics Related to the Seriously Emotionally Disturbed Adolescent** (3) Belknap, Ives
Topics may include aspects of psychopharmacology, abuse, suicide, and the addictive process. Recent research and treatment advances. (Summer)
- 288 **Characteristics of the Seriously Emotionally Disturbed Student: Infancy Through Adolescence** (3) Belknap
An in-depth examination of psychiatric diagnostic categories, psychosocial development issues, and the nature and needs of the seriously disturbed student. Material fee, \$20. (Fall)
- 289 **Curriculum and Instructional Strategies for the Seriously Emotionally Disturbed Adolescent** (3 to 6) Ives
Design, adaptation, and implementation of curriculum methods and materials. (Fall)
- 290 **Affective Development and Behavior Management in Special Education** (3) Castleberry, Freund
Theory, programming, and behavior management strategies from theoretical and practical points of view. Material fee, \$25. (Spring)

- 291 **Behavior Management Practicum: The Seriously Emotionally Disturbed Adolescent** (3)
Field-based examination of theory of and techniques for classroom control. Causes of behavior. Material fee, \$25. (Summer)
- 292 **Professional Internship in the Education of Young Exceptional Children** (6 or 9)
Supervised internship in the education of young exceptional children. A minimum of 420 clock hours required. (Spring and summer)
- 293 **Professional Internship for the Special Educator** (3 to 9)
Supervised internship in early intervention. (Spring and summer)
- 294 **Professional Internship: Service to the Seriously Emotionally Disturbed Adolescent** (6 to 9)
Full-time placement as a psychoeducator in various sites. (Spring)
- 295 **Professional Internship in Supportive Training, Transition, and Education Programs** (1 to 9)
Supervised internship focused on providing supportive training, transition, and education experiences for handicapped individuals. Emphasis on diversified cooperative and interagency programming; 140–420 clock hours required. (Fall, spring, and summer)
- 296 **Philosophical, Legal, and Practical Issues of Service Delivery for the Special-Needs Child** (3)
Historical and legal perspectives that have had an effect on service delivery systems for the special-needs child. Consequences of legislation on systems of service delivery in the public school. The impact on the regular classroom teacher and the administrator. (Summer)
- 297–98 **Research and Independent Study** (3–3)
Individual study or research under guidance of staff member. Admission by permission of advisor. May be repeated for credit. (Academic year)

Fourth Group

- 301 **Research Seminar in Special Education** (arr.)
Participation in a small group with a selected faculty member; research and discussion of an area of common interest. Admission by permission of instructor. (Spring)
- 303 **Administration and Supervision of Special Education** (3)
Philosophy and nature of special education; program organization, administration, and development. Surveying local needs; program evaluation and supervision. Admission by permission of instructor. Material fee, \$25. (Summer)
- 304 **Recent Research and Trends in Special Education** (3)
Emphasis on topical research issues, problems of conducting research, and procedures and sources for obtaining research funding. Material fee, \$25. (Fall and spring)
- 306 **Dynamics of Family Intervention: Theory and Practice in Special Education** (3)
Theoretical foundations and clinical techniques necessary for the special educator to counsel parents of handicapped students. Material fee, \$25. (Spring)
- 308 **Instructional Processes in Teacher Preparation and Special Education** (3)
Philosophical and methodological aspects of staff development and university programs; opportunities for practice in needs assessment, program design, and instruction. Admission by permission of instructor. Material fee, \$20. (Spring)
- 343 **Psychoeducational Diagnosis in Special Education** (3)
The range of diagnostic strategies applicable to the student who presents psychological and social and related learning difficulties. Admission by permission of instructor. Material fee, \$25. (Spring)

- 345 **Consultation Skills in Teacher Preparation and Special Education** (3) Ives, Shotel
Consultation models from organizational development, organizational psychology, and mental health applied to in-service training for educational personnel and programs for the special student in the public schools. Material fee, \$25. (Spring and summer)
- 351 **Developing Home/School/Community Support Systems** (3) Belknap, Ives
Provides experiences that facilitate effective home/school/community support for the emotionally disturbed adolescent. Review of literature on dysfunctional family systems. (Spring)
- 352 **Seminar: Legal Issues and Public Policy Concerns for Individuals Who Are Handicapped** (3) Staff
Identification and examination of policy issues; procedures involved in moving an area of concern into the political and legislative process; the role of agencies and advocacy groups in defining and shaping regulatory and implementation criteria into a legal mandate. Material fee, \$25. (Summer)
- 353 **Post-Master's Internship in Special Education** (3 to 6) Staff
Supervised professional internship in college teaching, administration, supervision, research or policy-making. Internships are individually arranged. Admission by permission of instructor. (Fall and spring)
- 354 **Doctoral Internship: Special Education** (6) Staff
Supervised professional internship in college teaching, administration, supervision, research, policy-making, or private agency function. Each internship is individually arranged. Admission by permission of advisor. (Fall and spring)
- 360 **Interdisciplinary Techniques in the Diagnostic Process in Special Education** (3) Staff
Application of theoretical concepts of assessment; development of assessment programs; interpretation and application of interdisciplinary diagnostic evaluations. Prerequisite: SpEd 260 or equivalent, and permission of instructor. Material fee, \$25. (Fall)
- 370 **Interpersonal Dynamics in Teacher Preparation and Special Education** (3) Ives
Attitude change and the access process. Applies specific psychosocial constructs germane to successful interaction to the milieu of the consultant/administrator. Material fee, \$25. (Fall)
- 390 **Doctoral Seminar in Special Education** (3) Shotel
Review of literature in a topical area; preparation of a manuscript of publishable quality. Admission by permission of instructor. (Fall)
- 391 **Dissertation Research** (arr.) Staff

TELECOMMUNICATION—GRADUATE PROGRAM

Professor C.H. Sterling (Director)
Associate Professor T.J. Brennan

The Graduate School of Arts and Sciences offers a multidisciplinary program leading to the degree of Master of Arts in the field of telecommunication. The program focuses on the interaction among technology, economics, management, and both corporate and governmental policy-making in the common carrier and media industries.

Master of Arts in the field of telecommunication—Prerequisite: a bachelor's degree with B average from an accredited college or university.

Required: the general requirements stated under the Graduate School of Arts and Sciences, including 36 semester hours of course work. Required courses for the degree include Econ 217 and 249; EE 450 and 451; TCom 201, 240, 241, 259; and four electives selected with a faculty advisor, typically drawn from TCom 220, 224; EE 452; AdSc 221; Mgt 282; and PAD 271, 272. Each student must pass a Master's Comprehensive Examination. A thesis option is available.

Telecommunications management is available as an elective field for the Master of Public Administration program in the School of Government and Business Administration. Telecommunications and computers is available as an area of concentration within the Master of Science program in the School of Engineering and Applied Science.

- 201 **Development of the Telecommunication Industry** (3)
Development of telecommunication technology, industry, and policy in the United States, stressing interrelationships among industry, government bodies, and policies, and users.
- 220 **Technology and Telecommunication Policy** (3)
National and international policy issues that arise from the interaction between scientific and technological development in the telecommunication industry and government policies. Prerequisite: TCom 201.
- 224 **Telecommunication Regulation** (3)
Background, current status, and trends in regulation of common carriers and electronic media. Legislative, FCC, and judicial decisions and trends. Emphasis on the process of federal regulation, with case studies. Prerequisite: TCom 201.
- 240 **Seminar in Domestic Telecommunication Policy** (3)
Interaction of private and public policy in telecommunication: research and development, market entry, competition, ownership and acquisition, regulatory business decisions, and social impact. The course is intended for degree candidates in their final year of study in the telecommunication program.
- 241 **Seminar in International Telecommunication Policy** (3)
Role and process of U.S. and international telecommunication organization, system authorization and utilization, transborder data flow and New World Information Order, barriers to trade in information equipment and services, regional facilities planning process, and development of competition. The course is intended for degree candidates in their final year of study in the telecommunication program.
- 259 **Applications of Economics in Telecommunication** (3)
Structure, interrelationship, and function of the telecommunication industry within a changing regulatory framework. Prerequisite: Econ 249.
- 297 **Special Topics in Telecommunication** (3)
Special topics in technology, economics, operations, or policy. May be repeated for credit once provided the topic differs. Prerequisite: TCom 201 and permission of instructor.
- 298 **Independent Study** (1 to 3)
Prerequisite: permission of instructor.
- 299-300 **Thesis Research** (3-3)

The following electrical engineering courses are offered by the School of Engineering and Applied Science for students in the telecommunication program:

- EE 450 **Principles of Telecommunication** (3)
Essential elements of a telecommunication system, representation of signals in the frequency domain, the baseband frequency spectra, and bandwidths for voice, data, and video signals. Signal and noise power, distortion, and channel capacity.
- EE 451 **Telecommunication Transmission Systems** (3)
Introduction to the use of microwave, fiber-optic, satellite, and computer communication systems. Sources and detectors for use in fiber-optic systems. Local area networks, packet-switched networks, routing algorithms, and performance. Prerequisite: EE 450 or permission of instructor.
- EE 452 **Applications of Telecommunication Technologies** (3)
Advanced topics and recent technological developments in telecommunication including traffic theory, queuing and switching systems, error detection and correction, ISDN, cellular radio systems, and security and privacy in communications. Prerequisite: EE 451 or permission of instructor.

THEATRE AND DANCE

Professor M.R. Withers

Associate Professors N.D. Johnson (Chair), A.G. Wade, N.C. Garner, L.B. Jacobson

Assistant Professors B.W. Sabelli, W.A. Pucilowsky, C.F. Gudenius, S.C. Haedicke
(Visiting)

Lecturer M.K. Grut

Bachelor of Arts with a major in theatre (departmental)—The following requirements must be fulfilled:

1. The general requirements stated under Columbian College of Arts and Sciences.
2. Required courses in related areas—12 semester hours in dramatic literature.
3. Required courses in the major—TrDa 14, 130, 131, 136, 145–146, 147; 15 additional semester hours in second-group theatre and dance courses.

Bachelor of Arts with a major in dance (departmental)—The following requirements must be fulfilled:

1. The general requirements stated under Columbian College of Arts and Sciences.
2. Required courses in related areas: Mus 3–4.
3. Required courses in the major (placement in second-group technique courses is determined by audition): TrDa 130, 131, 160–61, 162–63, 164–65, 170–71, 172–73, 174–75, 180–81, 182–83, 184–85, 186–87, 190–91, 192, 193–94, 199. At the beginning of the senior year, all dance majors undertake a project in a special area of interest under the supervision of one or more faculty members.

Minor in Theatre—18 semester hours of theatre courses, including TrDa 145–46.

Minors in Dance—

1. Dance: 6 semester hours from TrDa 160–61, 162–63, 164–65, 170–71, 172–73, 174–75, 192, 193–94; 6 semester hours from TrDa 180–81, 182–83, 184–85; and 6 semester hours from TrDa 186–87, 190–91.
2. Dance Education: 6 semester hours from TrDa 160–61, 162–63, 164–65, 170–71, 172–73, 174–75, 193–94; 6 semester hours from TrDa 180, 182 or 183, 184, 190 or 191; 6 semester hours from TrDa 154, 155, or 156.

Master of Fine Arts in the field of theatre—Prerequisite: the degree of Bachelor of Arts from this University, or an equivalent degree.

Required: the general requirements stated under the Graduate School of Arts and Sciences.

For the concentration in theatre design, the program of study consists of 54 semester hours of second- and third-group course work in theatre and dance and in art, planned in consultation with the advisor, including a creative thesis (equivalent to 6 semester hours).

For the concentration in dance, the program of study consists of 36 semester hours of second- and third-group course work in theatre and dance and in related arts, planned in consultation with the advisor, including a creative thesis.

First Group

First-group courses are primarily for nonmajors.

14 Introduction to Acting (3)

Garner, Jacobson, Wade

Basic techniques of concentration, imagination, improvisation, and character development. (Fall and spring)

45 Understanding the Theatre (3)

Sabelli

The art of the theatre; its literature, architecture, aesthetics, and mechanics. Contributions of the playwright, actor, director, and designer. Attendance at theatrical performances and presentations by visiting artists. (Fall and spring)

46 Understanding the Dance (3)

Staff

Survey of multiple styles of dance and the relationship of dance to culture and society through the ages. Opportunities to experience dance forms through partici-

pation, viewing videotapes and films, and attending theatrical performances (Fall and spring)

- 50 **Beginning Ballet** (1)
- 51 **Beginning/Intermediate Ballet** (1)
- 52 **Beginning Modern Dance** (1)
- 53 **Beginning/Intermediate Modern Dance** (1)
- 54 **Beginning Jazz** (1)
- 55 **Beginning/Intermediate Jazz** (1)
- 56 **Beginning Tap** (1)
- 57 **Beginning/Intermediate Tap** (1)
- 58 **Beginning Spanish Dance** (1)
- 59 **Beginning/Intermediate Spanish Dance** (1)
- 60 **Beginning Dance: Ethnic Forms** (1)
- 61 **Beginning/Intermediate Dance: Ethnic Forms** (1)
- 62 **Beginning Ballroom Dance** (1)
- 63 **Beginning/Intermediate Ballroom Dance** (1)
- 64 **Beginning Folk Dance** (1)
- 65 **Beginning/Intermediate Folk Dance** (1)

Second Group

- 105 **Intermediate Playwriting I** (3)
Same as Engl 105. Claeysse
- 108 **Intermediate Playwriting II** (3)
Same as Engl 108. Claeysse
- 112 **Voice for the Theatre** (3)
The practice and application of voice production with reference to skeletal alignment, breathing, resonance, and articulation. Emphasis is placed on individual awareness of the process of voice production and its application to performance. Prerequisite: SpHr 11 (for theatre majors) or permission of the instructor. (Fall) Jacobson
- 113 **Special Problems in Speech for the Actor** (3)
Vocal production related to interpretation of specific texts. Focus on stage dialects and the interpretation of Shakespeare. Prerequisite: TrDa 112. (Spring) Jacobson
- 115 **Beginning Scene Study** (3)
Principles of role development, concentrating on 20th-century material. Prerequisite: TrDa 14. (Fall and spring) Garner, Jacobson
- 116 **Scene Study: Modern Comedy** (3)
Principles of role development, comic timing, and stage business, concentrating on material by contemporary playwrights, such as Neil Simon. Prerequisite: TrDa 115. (Spring, odd years) Garner, Jacobson
- 117 **Audition Techniques** (3)
All aspects of the audition process: selection and rehearsal of audition monologues, handling of cold reading, etc. Prerequisite: TrDa 115 or equivalent. (Fall, even years) Jacobson, Garner
- 122 **Scene Study: Classical Drama** (3)
Principles of role development and handling of verse dialogue, concentrating on classical Greek and Shakespearian drama. Prerequisite: TrDa 115. (Fall, odd years) Garner, Jacobson
- 123 **Scene Study: Classical Comedy** (3)
Principles of role development, concentrating on material from the English Restoration, Molière, and other 17th- and 18th-century playwrights. Prerequisite: TrDa 115. (Spring, even years) Jacobson, Garner
- 130 **Theatre Production** (3)
Theories and practicum in theatre and dance production, including acting, dance, stage management, costume and set construction, rigging, lighting, sound, makeup, business management, and publicity, with specific emphasis in at least one area. May be repeated once for credit. (Fall and spring) Gudmundson

- 131 **Introduction to Lighting** (3) Gudenius
Lecture (2 hours), laboratory (1 hour). Theories and practicum in lighting for theatre and dance. Laboratory fee, \$15. (Fall)
- 132 **Makeup Design** (3) Pucilowsky
Theory and practicum in the art of makeup design, including latex and crepe hair.
- 133 **Stage Management** (1) Staff
Fundamental study of stage management with emphasis on practical production work as well as theory.
- 135 **Introduction to Scene Design** (3) Sabelli
Fundamental study of scenography, including historic overview, drafting, scene painting, rendering, stage properties, and model construction. (Fall, odd years)
- 136 **Costume History and Construction** (3) Pucilowsky
History of fashion in Western civilization from ancient Greece to the 20th century. Fundamental study of costume research through specific projects. Costume construction. (Fall)
- 140 **Anthropology, Drama, and the Human Experience** (3) Garner, Allen
A comparative approach to the meaning of humanity in different cultural traditions. Examination of the role of drama in daily life in its secular and ritual forms and contexts in which it is developed for conscious goals. Through improvisation workshops, students explore how the techniques of anthropology and drama can lead to a better understanding of the significance of specific actions and events and of human experience. Same as Anth 191. (Spring)
- 143 **Theatre in Washington** (3) Garner
An introduction to the organization and operation of professional theatres in Washington. Attendance at production is required. (Summer)
- 145-46 **History of the Theatre** (3-3) Haedicke
An examination of the development and growth of the theatre from the beginnings to the present. TrDa 145: Ancient Greece through the 17th century. TrDa 146: the 18th, 19th, and 20th centuries. (Academic year)
- 147 **Directing for the Theatre** (3) Garner
Fundamentals of script analysis, casting, and rehearsal techniques. Prerequisite: TrDa 114, 145, and 146. Laboratory fee, \$15. (Fall)
- 148 **Musical Theatre Production** (3 or 6) Pucilowsky and Staff
Practicum on all components of a musical theatre production, including principles of design, aesthetics, theory, and historical overview. (Summer)
- 149 **Musical Theatre Performance** (3) Jacobson and Staff
Intensive training and experience in the performance of musical theatre, culminating in a public performance. Practical staging application in movement, breathing techniques for singing, vocal production, and acting. (Summer)
- 151 **Ballet—The Illusive Art** (3) Johnson
The art of ballet; its history, aesthetics, and performance. Contributions of the choreographer and performer are examined through lectures, class discussions, readings, and presentations by guest lecturers. Attendance at theatrical performances and videotape/film showings. Primarily for nonmajors.
- 152 **Dance in the 20th Century** (3) Withers
Development of dance as an art form. Understanding the processes of creating dance. Improvisation, composition, choreography, and collaboration are examined. Participatory experiences. Primarily for nonmajors.
- 153 **Dance Aesthetics and Criticism** (3) Johnson
Theories related to dance as an art form and their application to dance criticism. Viewing of videotapes and films and attendance at theatrical performances.
- 154 **Creative Dance for Children** (3) Withers
Dance as an expressive art medium for children; concepts, principles, methods, and materials.
- 155 **Social and Recreational Forms of Dance** (3) Johnson
The application of theories and teaching concepts to social and recreational forms of dance.

- 156 **Dance Pedagogy** (3)
Philosophy, concepts, methods, materials, and organizational approaches to teaching dance in academic and nonacademic settings. Prerequisite: TrDa 186-87.
- 160-61 **Intermediate Ballet** (2-2)
May be repeated for credit. Prerequisite: TrDa 51 or equivalent.
- 162-63 **Intermediate/Advanced Ballet** (2-2)
May be repeated for credit. Prerequisite: TrDa 160 or 161 or equivalent.
- 164-65 **Advanced Ballet** (2-2)
May be repeated for credit. Prerequisite: TrDa 162 or 163 or equivalent.
- 170-71 **Intermediate Modern Dance** (2-2)
May be repeated for credit. Prerequisite: TrDa 53 or equivalent.
- 172-73 **Intermediate/Advanced Modern Dance** (2-2)
May be repeated for credit. Prerequisite: TrDa 170 or 171 or equivalent.
- 174-75 **Advanced Modern Dance** (2-2)
May be repeated for credit. Prerequisite: TrDa 172 or 173 or equivalent.
- 180-81 **Movement Improvisation for Theatre and Dance** (3-3)
Awareness of body movement, environment, group dynamics, performance and composition through improvisational techniques.
- 182-83 **Dance Composition** (3-3)
TrDa 182: Basic elements and principles of composition. TrDa 183: Advanced problems in composition. Prerequisite: TrDa 180-81 or equivalent. (Academic year)
- 184-85 **Choreography** (3-3)
The creation of a dance performance with reference to staging aspects. Prerequisite: TrDa 180-81, 192-93, or equivalent; TrDa 131 recommended. (Academic year)
- 186-87 **Body Alignment and Movement Theory** (3-3)
Application of principles of anatomy, kinesiology, and physics to the analysis and practice of contemporary dance techniques. (Academic year)
- 190-91 **Dance History** (3-3)
History of dance from antiquity to present; emphasis on cultural significance of dance as art, education, and social behavior. Prerequisite for nonmajors: TrDa 186-87. (Academic year)
- 192 **Repertory/Performance** (1)
Participation in the processes of learning dance repertory and performing dance works. Audition required. May be repeated for credit. (Academic year)
- 193-94 **Dance Styles** (arr.)
Forms of theatrical dance other than ballet or modern. (Academic year)
- 195 **Selected Topics** (3)
Topics of current interest in theatre or dance. Topics announced in the Schedule of Classes. May be repeated for credit provided that the topic differs.
- 196 **Independent Study** (1 to 6)
Independent research and special projects. Open to seniors or exceptionally well-prepared juniors majoring in theatre or dance. Before students are permitted to register for TrDa 196, they must submit a written proposal of the plan of study and obtain approval of the staff member who will be directing the study and the department chair.
- 198 **Internship** (3 or 6)
Open to seniors majoring in theatre or dance. Work placements with not-for-profit and commercial theatre and dance organizations for an approved number of hours per week. Admission requires departmental approval. May be taken for credit. (Fall and spring)
- 199 **Senior Project** (3)
Open to seniors majoring in theatre or dance. Before students are permitted to register for TrDa 199, they must submit a written proposal of the plan of study and obtain approval of the faculty member who will be directing the study and the department chair.

Third Group

Prerequisite to all third-group courses: M.F.A. candidacy or permission of instructor.

- 203 **Professional Literature** (3) Johnson
Survey of the literature of dance, including print and media materials.
- 207 **Trends in Contemporary Performance** (3) Withers
Study and discussion of current work in performance. Guest lectures and field study. Emphasis on individual projects.
- 231 **Lighting Design** (3) Gudenius
Theory and execution of lighting design for theatre and dance. Prerequisite: TrDa 131. May be repeated for credit. (Spring)
- 233 **Theatre Architecture: Performance and Exhibit Spaces** (3) Sabelli
Theatrical architecture from a historical perspective. Traditional and nontraditional exhibit, theatrical, and assembly spaces are examined and evaluated with reference to the functional use of space from practical, architectural, and aesthetic perspectives. Studio work includes design of a hypothetical performance space and its auxiliary units.
- 234 **Advanced Scene Design** (3) Sabelli
Preparation for the advanced student designer, with emphasis on the individual development of rendering techniques, technical drafting, traditional script analysis, and original scenographic interpretations. May be repeated once for credit. (Fall, even years)
- 235 **Special Projects in Scene Design** (3) Sabelli
Exploration of all styles of traditional and contemporary scenography through the making of scale models. May be repeated once for credit. Admission by permission of instructor. (Spring)
- 236 **Costume Design** (3) Pucilowsky
Introduction to the basic techniques of costume design through specific projects. Various rendering techniques will be explored, consistent with the historical period concerned. Prerequisite: TrDa 136. (Spring, odd years)
- 237 **Advanced Costume Design** (3) Pucilowsky
Study of special design, style, and construction problems.
- 238 **Pattern Making** (3) Pucilowsky
The study of pattern drafting and draping methods, based on contemporary and historical clothing, through lecture and class work. Prerequisite: TrDa 136. (Spring, even years)
- 250 **Advanced Dance Technique** (2) Staff
Advanced study in selected styles: ballet, modern, Spanish. May be repeated for credit.
- 252 **Advanced Dance Composition** (3) Withers
Elements of dance composition explored through improvisation, short movement studies, and dances that are presented, discussed, and reworked. May be repeated for credit.
- 255 **Choreographic Projects** (1 to 3) Withers
Original dances are created or dances are reconstructed for performance under the guidance of dance faculty. May be repeated for credit.
- 260 **Special Studies in Dance Video** (3) Withers
Review of existing art works of dance/video and dance/film for content and television production techniques. Emphasis on projects in-studio and with VHS and professional equipment. Lecture and laboratory.
- 270 **Aesthetics and Criticism** (3) Johnson
Examination of aesthetic theories of dance as a performing art, with application to criticism.
- 290 **Workshop** (1 to 3) Staff
Workshops with emphasis on contemporary issues and problems. Development of advanced professional competencies. Experts in short/intensive periods. May be repeated for credit.

- 291 **Internship** (3 or 6)
Internships with dance and theatre companies or arts organizations, including conference and/or seminar. May be taken for a total of 6 semester hours.
- 292 **Selected Topics in Theatre and Dance** (1 to 3)
May be repeated for credit.
- 294 **Independent Research in Theatre** (arr.)
May be repeated for credit. (Fall and spring)
- 299–300 **Thesis Research** (3–3)
(Fall and spring)

TRAVEL AND TOURISM

See *Human Kinetics and Leisure Studies*.

UNIVERSITY PROFESSORS

University Professors M. Cunliffe, A. Etzioni, P.J. Caws, S.H. Nasr

Courses numbered in the 770s are taught by distinguished scholars who hold appointments as University Professors. With the approval of the department or program concerned, appropriate University Professor courses may be taken to satisfy degree program requirements. Permission of the University Professor may be required for enrollment. A complete listing of courses offered each semester appears in the *Schedule of Classes* under the University Professors series. Following is a list of courses that are expected to be taught fairly regularly by University Professors.

AmCv/Hist

- 771 **American Intellectual History: The Idea of Private Property** (3)
American debates over private property, from the 17th century to the present day. Applications in legal, economic, political, and social thought and in imaginative literature. Entitlements and limits, land claims, slavery, women's property, copyright, right, inheritances, the individual in relation to the community and the state.

AmCv/Engl/Hist

- 772 **American Intellectual History: The James Family** (3)
A consideration of one of America's most brilliant "clans," c. 1840–1920: Henry James, Sr., cosmopolite and Swedenborgian reformer, and three of his children—the novelist Henry James, Jr., the psychologist-philosopher William James, and their diarist-sister Alice James. Their writings will be examined in several contexts, including literary criticism, feminism, and psychohistory. Open to undergraduates and graduate students.

AmCv/Hist

- 773 **Comparative Approaches to American History and Culture** (3)
Comparison as similarity or contrast? Successive American statements of "distinctiveness" from other national societies, especially European. Republicanism vs. monarchy. The quest for a national literature and culture. The frontier thesis vs. other claims for American uniqueness. The case for placing the United States in an international context and for querying "exceptionalist" interpretations. Open to juniors, seniors, and graduate students.

AmCv/Engl/Hist

- 774 **The History of Heroism** (3)
Interpretations of heroism, greatness, and genius since ancient times, with particular emphasis on 18th- to 20th-century conceptions. Hegelian, Marxist, and other theories of the role of the individual in affecting the course of history. The functions of biography, from hagiology to psychohistory, as a literary-historical genre. For juniors and seniors; open to graduate students.

AmCv/Engl

775 **The Great Popular Author in Britain and America, 1800–1915** (3) Cunliffe

The emergence of imaginative writers (Scott, Thackeray, Dickens, Twain, Kipling) who were both highly and widely admired for combining entertainment and moral edification. Subsidiary attention to European "giants" (Hugo, George Sand). The sociology of 19th-century authorship: periodicals, publishers, reviewing, translation, copyright, platform appearances, fecundity, and versatility. Prerequisite: permission of the instructor. For graduate students; open to qualified undergraduates.

Phil

772 **Individualism** (3)

Caws

The concept of the free individual in philosophy, psychology, literature, and politics; individuals and groups; individualism and collectivism; exemplary individuals in biography, autobiography, and fiction; problems of individual and collective agency and identity. For undergraduates; open to graduate students.

Phil

774 **Understanding Technology** (3)

Caws

An examination of the idea of technology—its relations to the sciences and the arts and humanities, its development, and its problems. Technology will not be regarded as merely dependent on the sciences or as merely useful (or dangerous); it will be regarded as a human activity in its own right, with its own history, conceptual structure, interests, risks, and benefits. For undergraduates; open to graduate students.

Phil

776 **Peace Studies and Conflict Resolution** (3)

Caws

The scope and complexity of conceptual and practical issues arising from the problem of war and peace. The main intellectual positions that have been taken and the major works to which they have given rise. For undergraduates; open to graduate studies.

Phil

778 **Left and Right in Philosophy and Politics** (3)

Caws

A fundamental inquiry, drawing on philosophy and the social sciences, into the concept of the state in terms of entrenched oppositions: individualism/collectivism, equality/liberty, liberalism/conservatism, socialism/free enterprise, communism/capitalism. Emphasis on the present need to find a constructive transcendence of these oppositions. Readings from Plato, Hobbes, Locke, Hegel, Marx, Freud, Levi-Strauss, Walzer, Nozick, and others. For undergraduates; open to graduate students.

Phil

779 **Philosophy and Psychoanalysis** (3)

Caws

An exploration of some striking parallels between the topics addressed by Freud's psychoanalytic theories on the one hand and the traditional content of philosophical reflection on the other, with special emphasis on the relation between cognitive theory and therapeutic practice (in both disciplines). For undergraduates; open to graduate students.

Rel

770 **Islamic Civilization and the West** (3)

Nasr

The encounter of Islam and the West, from the rise of Islam to modern times. Investigation of the impact of Islam on European philosophy, science, art, and literature; the impact of the image of Islam as shown in modern Western scholarship upon the Islamic world. For juniors and seniors; open to graduate students.

Rel

771 Persian Sufi Literature in East and West (3)

The writings of major Persian Sufi poets and writers, such as Khayyam, Rumi, Shabistari, and Hafiz, and their impact in the West and in India. The translation of these works into European languages and their influence on such figures as Goethe and Emerson are discussed. Assigned readings in English. For undergraduates; open to graduate students.

Rel

772 Mysticism—East and West (3)

A thematic examination of major elements and components of mystical traditions, dealing with such issues as the nature of mysticism, the search for ultimate reality, the mystical significance of the cosmos, the mystical science of the sacred and the significance of sacred art and symbols. Major mystical traditions of East and West—Hinduism, Taoism, Buddhism, Judaism, Christianity, Islam.

Rel

773 Perennial Philosophy (3)

The idea of perennial philosophy as developed in the 20th century by A. Huxley, A.C. Coomaraswamy, and certain Neo-Thomists. Doctrines and teachings of perennial philosophy as found in various religious and philosophical traditions of East and West. Prerequisite: at least one course in religion, philosophy, or intellectual history. For undergraduates; open to graduate students.

Rel

775 Man and the Natural Environment (3)

The religious, philosophical, and scientific causes of the present environmental crisis. The history of religious and philosophical attitudes toward nature in the West, the history of Western science, and some non-Western world views. The course may encourage a more harmonious relationship between man and the natural environment.

Rel

777 Religion and Science (3)

The interaction between religion and science in different civilizations. The relationship in ancient Egypt, classical Greece, Islam, India, China, and the West from the Renaissance, the scientific revolution, and up to the present day. Concepts and issues in the encounter of religion and science are considered in the light of the cultural matrix of the civilization and period in question. For juniors and seniors; open to graduate students.

Soc

776 Public Policy Research (3)

Basic concepts of policy research in comparison to basic and applied research. Policy research methods. The social structure of policy research: producers and consumers of knowledge and issues arising among them. Open to undergraduates and graduate students with permission of the instructor. Prerequisite: sociology or public policy course work or related experience.

Soc/PSc

777 Contemporary American Society (3)

A social science perspective of American society and its main institutions and dynamics. Analysis of the concepts that allow continued insight into American condition and its future. For undergraduates; open to graduate students.

Soc/Econ/PSc

779 The Elements of Socioeconomics (3)

A synthesized approach to the study of economic behavior and economic policy drawing on relevant segments of economics and sociology as well as political science and psychology. A discussion of ethical assumptions and core concepts in the study of micro- and macroeconomic behavior and their policy implications. For graduate students; open to qualified undergraduates.

URBAN AND REGIONAL PLANNING—GRADUATE PROGRAM

Professors D.C. McGrath, Jr., S.S. Fuller (Chair), S. Greene, D.E. Gale
 Adjunct Professors F. Gutheim, T.F. Carroll
 Associate Professor R.W. Longstreth
 Associate Professorial Lecturers J.L. Preston, R.D. Wagner, N. Longworth
 Assistant Professorial Lecturer M.K. O'Bryon
 Lecturer O.T. Carr, Jr. (Visiting)

See the School of Government and Business Administration for the program of study leading to the degree of Master of Urban and Regional Planning, which provides preparation for professional practice in the planning field, and areas of specialization in planning as components of programs leading to the degrees of Master of Public Administration and Doctor of Philosophy.

First Group

- 50 **Washington, D.C.: History, Culture, and Politics** (3) Gillette
 Same as AmCv/Hist/PSc 50.

Second Group

- 153 **Fundamentals of Urban Planning and Design** (3) McGrath
 Studio course for undergraduates. Basic elements of urban planning and design applied to community problems. Survey of planner's role in developing and implementing creative solutions to urban problems. (Spring)
- 154 **Survey of American Urban and Regional Planning** (3) Staff
 Examination of the historical roots, recent trends, issues, and new directions of American planning concepts, as well as the social and political forces that shape the character of planning in the United States. The roles of institutions, politicians, planners, and the general public in the planning process. Particular emphasis is placed on urban planning at the local governmental level. (Fall)
- 175-76 **American Architecture** (3-3) Longstreth
 Joint offering of the Urban and Regional Planning Department and the American Studies Program. Examination of selected topics in American architecture from the 17th century to the present. Stylistic properties, form type characteristics, technological developments, and urbanistic patterns are introduced as a means of interpretation of historic meaning. Buildings are analyzed both as artifacts and as signifiers of social, cultural, and economic tendencies. U&RP/AmCv 175: 1600-1860; U&RP/AmCv 176: 1860-present. Same as Art 176 and 191. (Academic year)
- 177 **Introduction to Historic Preservation** (3) Staff
 Washington, D.C., is the primary setting for the study of historic preservation as it has developed over the past century. Experience with preservation issues as shown by examples in other locations will also be discussed. Lectures, class discussions of the readings, and field trips to neighborhoods and sites subject to preservation efforts. Same as AmCv 177. (Spring)

Third Group

- 201 **Planning Theory and Practice I** (3) Staff
 Introduction to the development of urbanization and urban settlements in the United States, the emergence and growth of urban and regional planning, and the evolution of issues in the practice of the planning profession. (Fall)
- 202 **Planning Theory and Practice II** (3) Staff
 Introduction to the concepts of planning, plan making, and plan implementation. Examination of the relationship between theory and practice in planning. Discussion of the role of reconnaissance studies, goal formulation, technological forecasting, and scenario development in planning practice. Prerequisite: U&RP 201 or permission of instructor. (Spring)

- 203 Principles of Community Planning and Design (4)**
Planning and design studio to develop and apply planning methods and graphic techniques; principles of land use and community design; analysis of factors affecting community development and change. Open only to candidates for the degree of Master of Urban and Regional Planning. Laboratory fee, \$20. Prerequisite: U&RP 201 or permission of instructor. (Fall)
- 207 Land Development Planning (3)**
Selected problems in urban and regional planning; applications of zoning, environmental controls, tax incentives, and other techniques available for the implementation of development plans. Prerequisite: U&RP 201 or permission of instructor. (Spring)
- 208 Land Use and Urban Transportation Planning (3)**
Relationships between land use and the movement of goods and people. Examination of land use and transportation planning principles, issues, and techniques. Roles of public and private interests in land use and transportation planning and management. Prerequisite: U&RP 201 or permission of instructor. (Fall)
- 210 Urban Development Economics (3)**
Economic forces affecting urban growth and change; relationships among cities, metropolitan areas, and regions in the context of the national economy; socioeconomic implications of urban land development policies; basic studies and methods of economic analysis. Prerequisite: Econ 217 or 218 or equivalent or permission of instructor. (Fall)
- 211 Methods of Urban and Regional Analysis I (3)**
Study of basic statistical procedures and their interpretations, introduction to research methods and data collection and management, microcomputer operations and statistical problem solutions. This course establishes a computer capability that the student utilizes subsequently in all course assignments. (Fall)
- 212 Methods of Urban and Regional Analysis II (3)**
Introduction to methods used to analyze, estimate, and forecast population, employment, income, and economic growth and development. Includes census survival, location quotients, survey sampling and questionnaire design, share, and case study methods. Prerequisite: U&RP 211. (Spring)
- 215 Advanced Planning Problems (4)**
Investigation of complex problems of the metropolitan region, analysis of findings, formulation of proposals, and presentation of material to faculty and cooperating groups. Multidisciplinary team and individual planning projects. Studio course. Laboratory fee, \$20. Prerequisite: U&RP 203 or permission of instructor. (Fall)
- 218 Metropolitan and Regional Planning (3)**
Multidisciplinary study of the methods of regional analysis and process of regional planning; development of projects of regional scale requiring problem analysis, synthesis, and plan formulation. Prerequisite: U&RP 203 and 212 or permission of instructor. (Spring)
- 242 International Urban Planning (3)**
Examination and comparison of the theories of and approaches to urban planning in various countries. Analysis of the types of planning and development techniques employed and their effectiveness. Applicability of such approaches and methods within the context of the American urban planning process. Prerequisite: U&RP 201 or permission of instructor. (Spring)
- 251 Housing and Community Development: Concepts and Methods (3)**
An examination of the basic theories, concepts, principles, and analytical methods for managing the planning process by which cities approach the resolution of their development and housing needs. Housing supply and demand conditions, market analysis, physical inventory methods, community fact-finding, planning and impact analysis, commercial revitalization, and neighborhood theory and dynamics. Prerequisite: U&RP 201 or permission of instructor. (Fall)

- 252 **Housing and Community Development: Case Studies and Applications (3)** Staff
The application of theory and methodology to contemporary housing and community development issues. Examination of federal policies and programs, community facilities, redevelopment and adaptive reuse projects, and the role of the private sector. Case studies and field trips. Prerequisite: U&RP 251 or permission of instructor. (Spring)
- 255 **Urban Housing (3)** Fuller
Principal issues affecting the demand for and supply of housing, including home financing, housing costs, tenure options, rehabilitation and conservation, market dynamics and requirements, and public-sector involvement. Prerequisite: U&RP 251 or permission of instructor. (Summer)
- 257 **Fiscal Policy and Urban Planning (3)** Staff
Consideration of municipal fiscal conditions and their implications for urban planning. Examination of capital projects financing, tax policy and land use, and fiscal impact analysis of urban development. Prerequisite: U&RP 201 or permission of instructor. (Fall)
- 258 **Advanced Urban Development Economics (3)** Carr
Analysis of case studies of large-scale development projects to gain comprehension of financial, political, legal, and technical complexities and constraints inherent in the urban development process. Prerequisite: U&RP 210 or permission of instructor. (Fall)
- 259 **Economic, Social, and Legal Aspects of Urban Development (3)** Fuller
Same as BAD 225. Examination of the forces that shape urban development; introduction to market analysis methods and techniques to evaluate project feasibility; study of the institutional and legal framework within which urban development occurs and that influences controls, land value, and development potential; and analysis of roles and responsibilities of the public and private sector in the urban development process. (Fall)
- 261 **Community Planning and Design: Concepts and Methods (3)** Greene
Investigation of perceptual, social, physical, and aesthetic factors in planning and design. Emphasis on interaction of users and the environment, principles and process of community design, visual analysis, evaluation and implementation techniques. Prerequisite: U&RP 203 or permission of instructor. (Fall)
- 262 **Community Planning and Design: Case Studies and Applications (3)** Greene
Planning and design studio; application of community design principles and process to typical problems of community change and development. Laboratory fee, \$20. Prerequisite: U&RP 261 or permission of instructor. (Spring)
- 263 **Community Preservation and Design Studio (3)** Greene
Interdisciplinary studio class: application of the techniques and methods of historic preservation, urban planning, housing and community development, community design, and other disciplines to problems of revitalizing urban areas. Surveys, inventories, analyses, formulation of proposals, and presentation to faculty and cooperating groups. Laboratory fee, \$20. Prerequisite: U&RP 201 or permission of instructor. (Summer)
- 264 **Urban Development Planning and Design (3)** Greene
Same as BAD 228. Application of planning/design principles and techniques in a studio/laboratory environment. Field reconnaissance and graphic techniques applied to projects in site selection, site analysis, concept formulation, and site planning in an urban context. Public and private sector issues are addressed in the preparation of a project development proposal. Prerequisite: BAD 225/U&RP 259 and BAD 226; must be taken concurrently with BAD 227. (Spring)
- 273 **Neighborhood Conservation (3)** Staff
Examination of the economic, social, design, and public policy conditions that affect neighborhood decline and revitalization. Intensive analysis of financing mechanisms, implementation techniques, and planning tools useful in conserving and restoring older urban neighborhoods. Prerequisite: Permission of instructor. (Summer)

- 275 **The Politics of Historic Preservation** (3)
Same as AmCv 275. Overview of the political issues, forces, events, and players that have shaped contemporary preservation practice, with an emphasis on public policy issues that have not been resolved and continue to confront preservation objectives. Prerequisite: Permission of instructor. (Spring)
- 276 **Economics of Preservation** (3)
Same as AmCv 276. Analysis of economic techniques and benefits used to encourage the retention and reuse of historic buildings and districts in the United States. Prerequisite: Permission of instructor. (Spring)
- 277-78 **Historic Preservation: Principles and Methods** (3-3)
Joint offering of the Urban and Regional Planning Department and the American Studies Program. Same as Hist 277-78. Exploration of scope and purpose of the preservation movement in the United States with focus on developments from the 1960s to the present. Topics include the emergence of preservation theories in the 19th century, relationships between attitudes toward the past and town design, the intent and impact of legislation, organizational dynamics, approaches to documentation, the concept of significance, and preservation as an instrument of change. Discussions with representatives of organizations and public agencies supplement class lectures. (Academic year)
- 290 **Special Topics in Urban and Regional Planning** (3)
Experimental offering; new course topics and teaching methods. May be repeated once for credit. (Fall or spring)
- 295 **Research Methods** (3)
Directed research and investigation of special problems in community development. May be repeated once for credit. (Fall and spring)
- 298 **Directed Readings and Research in Urban and Regional Planning** (3)
- 300 **Thesis Research** (3)
(Fall and spring)

Fourth Group

Fourth-group courses are primarily for doctoral students and are offered as the demand requires. They are open to selected master's students upon petition approved by the Associate Dean.

- 311 **Seminar: Public-Private Sector Institutions and Relationships** (3)
An analysis and critique of alternative theoretical frameworks for describing, understanding, and predicting the nature, values, and actions of American public and private institutions. Problems, potentials, and alternatives for structuring public and private institutional arrangements to meet the needs of society. Prerequisite: doctoral degree candidacy status.
- 398 **Advanced Reading and Research** (arr.)
Limited to doctoral candidates preparing for the general examination. May be repeated for credit. (Fall and spring)
- 399 **Dissertation Research** (arr.)
Limited to doctoral candidates. May be repeated for credit. (Fall and spring)

WOMEN'S STUDIES

Professor P.H.M. Lengermann (Director)
Professorial Lecturer S. Ridder
Associate Professor P.M. Palmer
Adjunct Associate Professor J.N. Brantley
Adjunct Assistant Professor R. Spalter-Roth
Assistant Professorial Lecturer M.B. Pratt

Committee on Women's Studies

E. Berkowitz, J.N. Brantley, M.M. Cassidy, S.E. Haber, P.H.M. Lengermann, P.M. Palmer, P. Poppen, A. Romines, R. Spalter-Roth, C. Tate

Minor in Women's Studies—Undergraduates who select a minor in women's studies must declare their intention to the director no later than the beginning of their senior year.

Students are required to complete at least 15 semester hours for the minor, including two core courses (WStu 120 and 125) and three additional courses chosen from AmCv/Hist 185, Clas 170, Econ 141, Econ 153, Engl 162, Engl 174, Hist 125, Phil 125, Psyc 150, Rel 181, and Soc 155. In addition, students are strongly recommended to take WStu 170 and 183.

The women's studies programs seek to examine and integrate the contributions of established academic disciplines to an understanding of the historical and contemporary role and status of women, and to provide training necessary to evaluate policies for women. Each student will work closely with an advisor in designing a program to meet individual interests and goals. Prospective degree candidates should consult with the director of the Women's Studies Program.

Master of Arts in the field of women's studies and Master of Arts in the field of public policy with a concentration in women's studies—Prerequisite: a bachelor's degree from an accredited college or university. Students are expected to have completed the prerequisites to graduate courses.

The Graduate School of Arts and Sciences offers two interdisciplinary programs leading to the degrees of Master of Arts in the field of women's studies and Master of Arts in the field of public policy with a concentration in women's studies. Both are directed by the Committee on Women's Studies and draw upon faculty from various departments within the University and resource persons in the community.

Required: the general requirements stated under the Graduate School of Arts and Sciences, and 36 semester hours of course work, with or without a thesis. All students must take a common core of women's studies courses: WStu 220, 221, 225, and a final 6 hours of either WStu 283 and 295 or WStu 299–300. Policy-oriented students must take four of the six courses in the public policy core (Stat 104, 183; PSc 203; Psyc 244; Econ 211, 217, 247), with Stat 104, 183, PSc 203, and Econ 217 recommended; WStu 240 may be substituted for one of the core policy courses. Of the remaining three courses, two must be in the same discipline, which may be in the humanities, social sciences, or public administration. Those pursuing the Master of Arts in the field of women's studies must take, in addition to the core courses in women's studies, 12 semester hours in one other discipline (history, literature, economics, philosophy, or sociology) and 9 hours of electives. With permission, other disciplinary concentrations may be selected. All candidates are required to pass a Master's Comprehensive Examination.

120 Introduction to Women's Studies (3)

Staff

A multidisciplinary examination of historical conditions, cultural norms, and social institutions that define women's status in Western culture. Experiences of girls and women in various racial-ethnic, class, and age groups. Alternative visions for women's (and, by implication, men's) roles and status. Sophomore standing required. (Fall and spring)

125 Varieties of Feminist Theory (3)

Staff

A review, through both classical and contemporary texts, of the variety of feminist explanations of women's status. Relationships within the sex/gender system and arrangements based on class and race. Evaluation, through the lens of feminist theory, of several of the established academic disciplines in the sciences, social sciences, and humanities. Prerequisite: WStu 120. (Fall and spring)

170 Selected Topics in Women's Studies (3)

Staff

Examination and analysis of central issues in women's studies, such as women and difference, women in media, ecofeminism, women and spirituality, psychoanalysis and women. Topic changes each semester; may be repeated for credit. Admission by permission of instructor. (Fall and spring)

183 Practicum in Women's Studies (3)

Staff

Study of the changing status of women through supervised assignment to public and private agencies engaged in policy-making, education, political action, and research. Placement arrangements begin the semester prior to registration for this course.

220 Perspectives on Women (3)

Palmer

Survey of the historical development of feminist theory in Europe and the United States from the 1790s to the 1940s, focusing especially on feminist uses of and responses to enlightenment liberalism, social Darwinism and other biologically

- based social theories; Marxism, Freudianism, and existentialism. Theories examined in the context of women's movements for social justice, including abolition, women's property and child custody rights, access to education, organizing, birth control, suffrage, and civil rights. Some comparisons are made with women's rights movements internationally. (Fall)
- 221 **Research Issues in Women's Studies** (3) Spalter-Roth
Analysis of the contribution of feminist or gender-relations perspectives to the humanities and social science disciplines to the issues and methods of social research and social policy and practice. Topics include a review of feminist frameworks, a critique and re-evaluation of traditional academic disciplines, and analysis of current research on and for women, especially in the areas of sexuality, work, poverty, and social change. (Fall)
- 225 **Feminist Theory** (3) Lengermann, Palmer
Developments in feminist theory in the past 20 years, with a primary focus on American feminism and some consideration of European and Third World thought. (Spring)
- 240 **Women and Public Policy** (3) Palmer, Spalter-Roth
Basic steps in systematic policy analysis and comparison of genderless analyses with those based on gender. Application of analyses to specific U.S. policy issues, such as domestic violence, military service, abortion rights, equal employment opportunity, child and dependent care, welfare, social security, and international development assistance. (Spring)
- 241 **Women and the Law** (3) Romines
Legal status of women. Emphasis on marital status, employment, media, education, health services, crime, and the Constitution. (Spring)
- 251 **Women, Literature, and the Arts** (3) Palmer
Same as Engl 251. Examination of stereotypes, themes, language, patterns, and symbolism in works by and about women. Particular attention to the woman as artist and the development of feminist criticism. (Fall)
- 260 **Women in the American Work Force** (3) Palmer
Joint offering of the American Studies Program and the Women's Studies Program. Multidisciplinary analysis of women's role in the labor force and gender-based division of labor. Views of women's work in the home and outside interrelationships of women in and out of the work force; class, race, and ethnic differences. (Spring)
- 270 **Seminar: Selected Topics** (3) Spalter-Roth
Investigation of a current policy issue of particular concern to women, or consideration of women's status in a particular social system. (Fall and spring)
- 280 **Independent Study** (3) Spalter-Roth
May be repeated for credit. Arrangements must be made with sponsoring faculty member prior to registration.
- 283-84 **Practicum in Women's Studies** (3) Spalter-Roth
Study of the changing status of women through supervised assignment to public and private agencies engaged in policy-making, education, political action, research. Placement arrangements begin the semester prior to registration for the course.
- 295 **Independent Research in Women's Studies** (arr.) Spalter-Roth
Individual library or field research. Program advisor's approval of a written proposal required.
- 299-300 **Thesis Research** (3-3) Spalter-Roth

YIDDISH

See Classics.

ZOOLOGY

See Biological Sciences.

FACULTY AND STAFF OF INSTRUCTION 1989-1990

Columbian College of Arts and Sciences

Graduate School of Arts and Sciences

School of Education and Human Development

School of Government and Business Administration

Elliott School of International Affairs

EMERITI

Caroline Lander Adams, *Professor Emeritus of Botany*
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B.A. 1918, George Washington University; Ph.D. 1922, Johns Hopkins University
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ACTIVE*

- Fred Paul Abramson, *Professor of Pharmacology*
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B.A. 1949, Ed.D. 1954, University of California, Berkeley
- William Clayton Adams, *Professor of Public Administration*
B.A. 1971, M.A. 1972, Baylor University; Ph.D. 1977, George Washington University
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School of Education and Human Development: Bachelor of Arts in Education and Human Development (B.A. in Ed.&H.D.), Bachelor of Science in Human Kinetics and Leisure Studies (B.S. in H.K.L.S.), Master of Arts in Education and Human Development (M.A. in Ed.&H.D.), Master of Arts in Teaching (M.A.T.), Master of Education (M.Ed.), Education Specialist (Ed.S.), and Doctor of Education (Ed.D.)

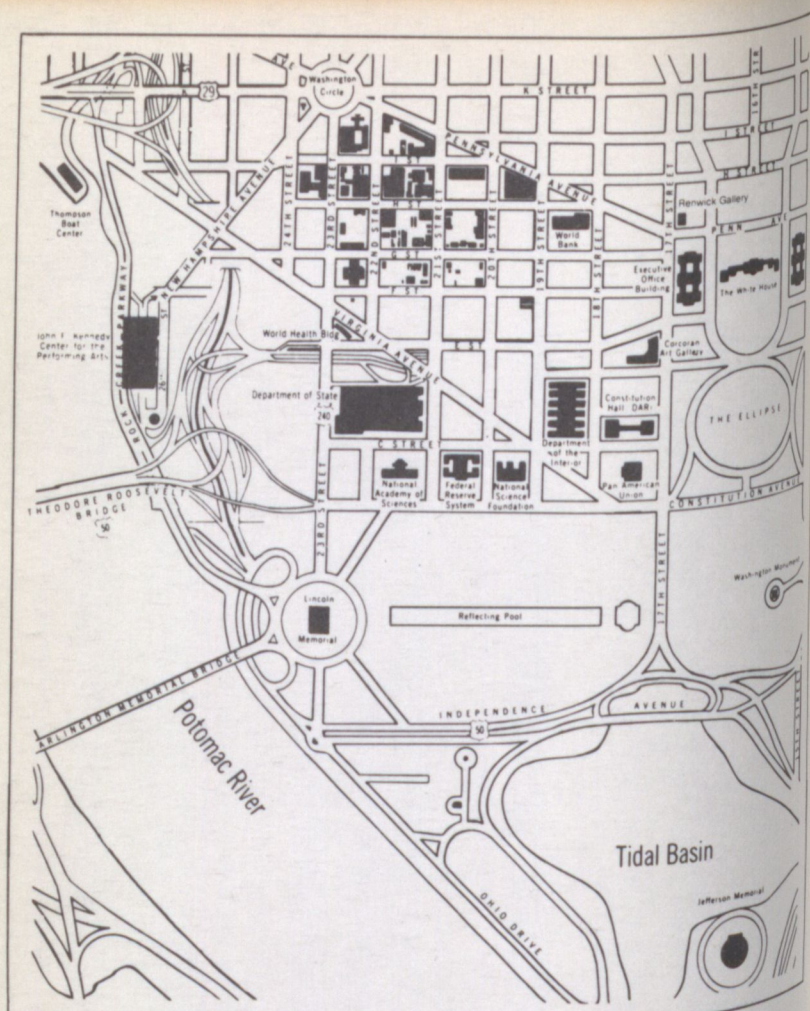
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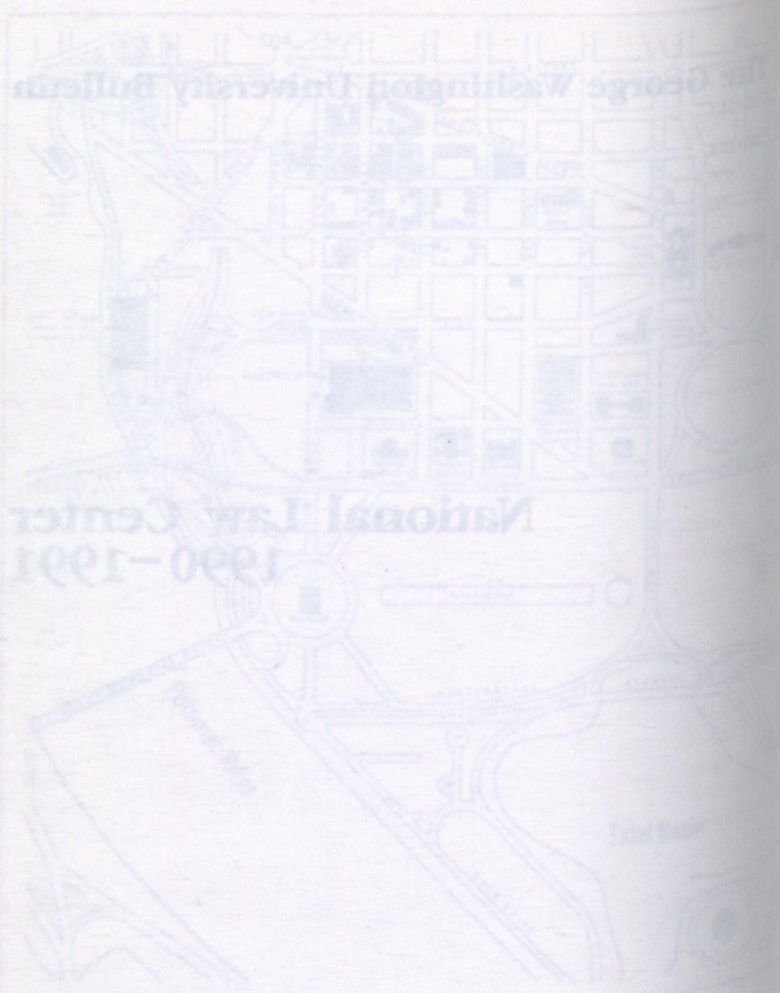
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The Academic Calendar 1990-1991*

1990 Fall Semester

<i>August 23-24</i>	Registration
<i>August 27</i>	Classes begin
<i>September 3</i>	Labor Day (holiday)
<i>October 1</i>	Application for February graduation due
<i>October 12</i>	S.J.D. dissertations of candidates for February graduation due
<i>November 22-23</i>	Thanksgiving holiday
<i>December 4</i>	Constructive Thursday (makeup for Thanksgiving holiday)
<i>December 5</i>	Constructive Friday (makeup for Thanksgiving holiday) Last day of fall semester classes
<i>December 6-7</i>	LL.M. theses of candidates for February graduation due Reading period
<i>December 10-21</i>	Examination period

1991 Spring Semester

<i>January 11</i>	Registration for those not registered during the fall
<i>January 14</i>	Classes begin
<i>January 21</i>	Martin Luther King, Jr., Day (holiday)
<i>January 25</i>	S.J.D. dissertations of candidates for May graduation due
<i>February 1</i>	Application for May graduation due
<i>February 17</i>	Winter Convocation
<i>February 18</i>	George Washington's birthday observed (holiday)
<i>March 15</i>	Spring recess begins after last class
<i>March 25</i>	Classes resume
<i>May 1</i>	Constructive Monday (makeup for Martin Luther King, Jr., Day) Last day of spring semester classes
<i>May 2-3</i>	LL.M. theses of candidates for June graduation due Reading period
<i>May 6-21</i>	Examination period
<i>June 2</i>	Commencement

*The Academic Calendar is subject to change.

The National Law Center

History

The Law Center, the oldest law school in the District of Columbia, was established in 1865 with a formal program of two years of study. This was largely through the efforts of the Reverend Whitefield Samson, President of Columbian College, whose action resulted in the purchase of a separate building for holding law classes. The building had belonged to Trinity Church, of which Francis Scott Key had been Senior Warden. It was occupied by the Law Center until 1884.

Sixty graduates, from 22 of the then 37 states, received degrees in 1867. The school continued to have a student body and a faculty that reflected the fact that it was at the seat of our nation's government. Supreme Court Justices David J. Brewer and John Marshall Harlan were among the prominent members of the bench and bar who were on the faculty.

In 1877, one year after the first such program was adopted in the United States, the Law Center instituted a course leading to the degree of Master of Laws. In 1898, the course of instruction for the degree of Bachelor of Laws was extended to three years. The Law Center took part in 1900 in the organization of the Association of American Law Schools.

In the past quarter-century the Law Center expanded its course and seminar offerings with consideration of the needs of first-degree and graduate students. The degree of Doctor of Juridical Science was instituted in 1940. In 1946, the Law Center began accepting foreign attorneys into specially designated programs. Today, lawyers from other countries are accepted into the Master of Laws program.

In 1954, the National University School of Law, which had held an important place in legal education in the District of Columbia since 1869, was absorbed by the George Washington University Law School.

Since 1954, programs of special research and study have enriched the basic curriculum. At present these include Environmental Law; Intellectual Property Law; International and Comparative Law; Land Use Management and Control Law; and Government Contracts. The academic courses reflect the breadth in public law for which the Law Center is well known.

Additionally, the Law Center has been a leader in developing a curriculum to meet the legal needs of the poor and the disadvantaged. A clinical law program has been developed that is the equal of that at any law school in the nation. Special projects include the Consumer Protection Center, the Community Legal Clinic, Clinical Studies in Environmental Law, Students in Court, and individual projects supervised by the Law Students Civil Rights Research Council.

Location in the Nation's Capital

Of special significance is the location of the National Law Center in a central area of the nation's capital, the focal point of the law in action, both American and international. The work of the Center goes on in this environment, presenting a unique opportunity for observation and study of federal agencies—judicial, legislative, and administrative. Readily accessible are the Supreme Court of the United States, the federal trial and appellate courts of the District of Columbia, and federal courts of special jurisdiction, such as the United States Court of Appeals for the Federal Circuit, the United States Tax Court, and the Court of Military Appeals. Current federal legislation can be studied as it is considered by Congressional committees and as it comes up for debate on the floors of the House of Representatives and the Senate. With respect to the federal administrative agencies, students here in Washington have matchless opportunities for study and observation. They can attend

informal and formal hearings of these agencies and can obtain from the docket sections complete records of administrative adjudication in specific cases. Illustrative of such federal agencies are the Interstate Commerce Commission in the field of transportation; the Federal Trade Commission in the field of trade regulation; the Securities and Exchange Commission in the field of security issues and corporate finance; the National Labor Relations Board in the field of labor-management relations; the United States Patent Office in the field of patent law; the Federal Energy Regulatory Commission in the field of water, natural gas, and electric power; and the Federal Communications Commission in the field of radio and television.

Supplementing these environmental advantages of law in action are the exceptional research library collections in the Library of Congress, in the various departments of the federal government, and in the libraries of the headquarters of national and international organizations. The notable library of the Carnegie Foundation for International Peace has been acquired by George Washington University for use by research students in international and comparative law, fields with respect to which Washington has come to be called "The Capital of the World."

The years of residence at law school are years of participation in the life of the community, which in the case of the George Washington University National Law Center is the government of the United States. As a consequence, the study of law takes on added meaning, whether the goal be government service or practice, general or specialized, and whatever the community in which the student plans to practice.

Objectives

The purpose of the National Law Center is to prepare men and women to meet the needs of society in many fields of law and to encourage scholarly research and writing in the law. As a national law school, the Center does not emphasize any particular geographic area in its instruction; therefore, it prepares students to practice law in any part of the country. The Center also offers a program of legal education for foreign students. The Law Center seeks to fulfill these objectives through a rich and varied curriculum taught by eminent professors and highly qualified specialized instructors; an extensive clinical law program in which students learn legal skills by actual practice; two law journals that specialize in public law and international law; trial practice; participation in the Van Vleck Appellate Case Club and several other moot court competitions; a series of student professional co-curricular activities; studies on an advanced level for foreign as well as for American students; a continuing legal education program for members of the bar, providing them with opportunities for course work within the curriculum; and scholarly research and writing in the law.

Student Body

The National Law Center has a total enrollment of about 1,600 students. Approximately 1,000 students are in the full-time day division for the J.D. degree and 300 are enrolled in the part-time evening division. More than 200 students, many from abroad, are enrolled in the post-J.D. degree programs.

The Juris Doctor Degree

Entrance Requirements

Admission to the Juris Doctor degree program requires a bachelor's degree from an accredited college or university and a strong academic record. The Admissions Committee takes into account both the grades and the distribution of courses. The Admissions Committee considers personal and scholastic achievements, recommendations (if submitted), and the results of the Law School Admission Test (LSAT). The Committee also seeks social, ethnic, cultural, and geographical diversity in the student body. In the selection process, there is no discrimination against any applicant because of sex, race, color, religion, handicap, or national origin.

Information concerning the Law School Admission Test may be obtained from the Admissions Office of the National Law Center or from Law Services, Box 2001, Newtown, Pennsylvania 18940. The test is administered at various centers in the United States. Testing dates are usually in September, December, February, and June. Completed application forms must be received by Law Services at least one month before the date of the test. It is not necessary to apply to the law school before taking the test.

Admission

Beginning students are admitted only at the start of the fall semester. Because admission decisions are made on a rolling basis, applicants are urged to submit application forms and complete credentials well in advance of the March 1 deadline. This means that the Law School Admission Test should be taken no later than December. Application forms are available at and should be returned to the Office of Admissions of the National Law Center, George Washington University, Washington, D.C. 20052.

The applicant should register with the Law School Data Assembly Service (LSDAS) by completing and mailing the registration forms supplied by Law Services. No application to this school will be processed unless accompanied by a Law School Application Matching Form, which is found in each applicant's LSAT/LSDAS registration packet. A transcript from each college or university attended should then be sent directly to LSDAS, Box 2000-M, Newtown, Pennsylvania 18940. The LSDAS will analyze the transcript(s) and send a copy to this law school and others that ordered a report. However, the applicant will be asked, upon acceptance, to submit directly to the National Law Center a final transcript showing evidence of the receipt of a bachelor's degree.

Advanced Standing (Transfer Students)

A limited number of places is available for students who wish to transfer to the National Law Center after completing one year of legal studies at a law school accredited by the American Bar Association. A maximum of 28 credit hours may be applied to the Law Center's degree requirements. The primary factor considered in an admission decision is the student's first-year performance. No applicant will be accepted for transfer who is ineligible to return in good standing to a previously attended law school. Transfer students may apply for admission to the National Law Center for either the fall or spring semester. The deadlines for submission of transfer applications are July 1 for the fall semester, December 1 for the spring semester.

Foreign Attorneys

A limited number of foreign attorneys who wish to prepare for law practice in the United States may be admitted to the Juris Doctor program. A student in this program who completes 28 hours of course work at this law school with a grade point average of 70.0 or above may be granted an additional 28 hours of advanced standing for law studies outside the U.S. and thereby earn the J.D. degree in two years. A student whose average is below 70.0 after taking 28 hours of course work must complete the full J.D. program which requires 84 hours of course work.

Students will be admitted to this program only at the start of the fall semester. The deadline for application materials is March 1, but applicants are encouraged to submit applications well in advance of the deadline.

Visiting (Unclassified) Students

A law student who is in good academic standing as a degree candidate at an ABA-approved law school may be admitted to the National Law Center as an unclassified student and earn credit for transfer to his or her law school. Students may apply for visiting student status during the fall, spring, or summer semester. Admission will be based on the availability of space. The deadlines for application materials are July 1 for the fall semester, December 1 for the spring semester, and one month prior to the beginning of the summer session.

Day Division/Evening Division

Once admitted to the Juris Doctor degree program, candidates are given the option of attending either the day division (full-time) or evening division (part-time) as space permits. Once enrolled, students may transfer between divisions only with the permission of the dean. See Academic Work Load, Residence, and Required Curriculum, below, for regulations governing the day and evening divisions.

Degree Requirements

In order to earn the Juris Doctor degree, students must satisfactorily meet the following academic requirements: Completion of 84 semester hours of credit; fulfillment of the residence requirement; completion of the required curriculum; and maintenance of the minimum grade point average of 65.

Residence

Candidates for the Juris Doctor degree must complete a residence period of three academic years. At least two academic years of residence are required of students admitted with advanced standing. Attendance as a full-time student (11 or more credit hours) for each of the fall and spring semesters constitutes residence for only one academic year, regardless of how many credits over 11 the student takes in any one semester; similar attendance as a part-time student (8-10 credits each semester) constitutes residence for three-fourths of an academic year. Consequently, a full-time student must attend six semesters to meet residence requirements; a part-time student must attend eight. Full-time students authorized to take schedules of less than 11 hours and part-time students authorized to take schedules of less than 8 hours receive residence credit on a proportional basis. Students who attend the summer session receive fractional residence credit. These residency requirements apply to all J.D. students in the National Law Center.

Required Curriculum

Day Division

First-year students in the day division are required to take the following schedule of courses, which provides the basis upon which all further legal study is built: fall semester—Contracts I, Torts, Criminal Law, Civil Procedure I, and Legal Research and Writing; spring semester—Contracts II, Property, Constitutional Law I, Civil Procedure II, and Moot Court.

During the second or third years of study, day division students must take Constitutional Law II, Criminal Procedure, Evidence, Professional Responsibility and Ethics, and the two-credit legal writing requirement.

Evening Division

Evening division students must take the following schedule in their first and second years: first year, fall semester—Contracts I, Torts, and Legal Research and Writing; first year, spring semester—Contracts II, Criminal Law, Property, and Moot Court; second year, fall semester—Constitutional Law I, Civil Procedure I, and 4 hours of electives; second year, spring semester—Civil Procedure II and 7 hours of electives.

During the second, third, or fourth years, evening division students must take Constitutional Law II, Criminal Procedure, Evidence, Professional Responsibility and Ethics, and the two-credit legal writing requirement.

Legal Writing Requirement

Completion of a two-credit course, which is graded on the basis of written work (not examination), is required for the Juris Doctor degree. This requirement may be satisfied by service on the *Law Review* or the *Journal of International Law and Economics*, by satisfactory completion of a seminar or other course that requires or permits a research paper, by participation in upper-class Moot Court, or by satisfactory completion of Law 314, *Independent Legal Writing*. (See Research Papers for guidelines.)

Academic Regulations

Academic Work Load

Juris Doctor candidates without substantial outside employment (no more than 20 hours a week) may take a program of studies of 15 credit hours per semester. Such students may take courses in the evening only if they take a majority of their hours in day courses. The dean is authorized to approve programs of study of more than 15 credit hours in exceptional cases; however, no program will be approved that would permit the student to complete requirements for the degree in less than 28 months after beginning the first year of law study. Students with more than 20 hours of outside employment, whether in the day or evening division, must take a limited program of studies not exceeding 10 credit hours; the minimum load is 8 credit hours, except in special cases when fewer hours may be approved by the dean for a limited time. A minimum schedule of 11 credit hours in the day division is required, except in unusual circumstances when a reduced program is authorized by the dean.

Students taking more than 8 credit hours in the day division or 4 credit hours in the evening division must have the dean's permission to take a bar review course.

After the first year, students may, with the dean's permission, transfer from one division to the other but should be advised of the residency consequences (see Residence).

Student Employment

A student taking more than 10 hours of course work must limit outside employment to not more than 20 hours. It is urged that all full-time students refrain from engaging in outside employment during their first year. Although work in some special areas may contribute to the learning and experience of the student, as a general rule it will compete with the time needed for adequate study and preparation, which are at the heart of a good legal education.

Academic Evaluation

Grades

Grades are given in numerical terms equivalent to letter grades as follows.

- 85-100 A, Excellent
- 75-84 B, Good
- 65-74 C, Satisfactory
- 55-64 D, Poor—below standard for graduation
- 45-54 F, Failure

Some courses are offered on a Credit/No Credit basis (see Courses of Instruction); a student must earn a grade of 65 or above to receive Credit in such a course. In Law 220, the grade of H (Honors) may be earned for work of excellent quality. A student who has been excused from taking a regularly scheduled examination is given the grade of I, Incomplete. See Examinations for grade upon failure to take an examination.

Credit is given for all grades between 55 and 100. Any J.D. student who receives a grade below 55 has the right to retake the course once, from the same or a different instructor, but only within the next academic year.

The cumulative average of a student includes all grades in all courses taken while a candidate for a particular degree.

No grade may be changed by an instructor after it has been posted in the Law Center or disclosed to a student unless there has been an error in arithmetic certified in writing as such by the instructor.

Honors

The degree of Juris Doctor "With Highest Honors" is awarded to those students, not exceeding three percent of the graduating class, who have obtained the highest cumulative averages of at least 85.

The degree of Juris Doctor "With High Honors" is awarded to those students with the highest cumulative averages of 80 or better. The number of students receiving degrees "With High Honors," when added to the total number of students receiving degrees "With Highest Honors," may not exceed 10 percent of the graduating class.

The degree of Juris Doctor "With Honors" is awarded to those students with the highest cumulative averages of 75 or better. The number of students receiving degrees "With Honors," when added to the total number of students receiving degrees "With High Honors" and "With Highest Honors," may not exceed 40 percent of the graduating class.

Order of the Coif

The Order of the Coif, a national legal honor society, aims "to foster a spirit of careful study and to mark in a fitting manner those who have attained a high grade of scholarship." The George Washington University chapter was established in 1926. Members are elected each year from the highest-ranking 10 percent of the graduating Juris Doctor candidates. Only students who have completed their full course of study at the National Law Center are eligible for membership.

Credit/No Credit Option

J.D. candidates may take, in addition to the courses regularly given on a Credit/No Credit basis, 6 semester hours of elective course work on a Credit/No Credit basis. No student may take more than 17 semester hours of courses on a Credit/No Credit basis. A student must earn a grade of 65 or better to earn Credit. The Credit/No Credit option may be elected for only one course during a semester or summer session. The final date for an election of Credit/No Credit in a graded course will be the Friday of the third week of a semester or summer session. An unexcused failure to take an examination in a course or failure to submit a required research paper will result in the recording of a grade of 45 for a course taken on a Credit/No Credit basis.

Students are advised to consider carefully the advisability of electing to take courses on a Credit/No Credit basis. In the opinion of the faculty, a student's election to take courses on a Credit/No Credit basis may be detrimental to the student's career in the legal profession because of the importance usually attached to grades by educational institutions and employers.

Examinations

Written examinations are held at the end of most courses. Every student is required to take the regular examinations unless excused. If a student fails to take an examination, a grade of 45 will be recorded unless the student has been excused from the examination or has obtained the dean's permission to drop the course. No excuse for absence will be granted except by the dean and then only for illness or other emergency. Application for excuse must be made in writing as soon as possible but not later than one month after the date of the examination. A student who has received an excused absence for a graded course has two options: The student may comply (prior to the completion of the semester following the excused absence) with the instructor's procedure of evaluation on a Credit/No Credit basis (minimum grade of 65 required for J.D. candidates), or the student may have the grade of *I* (Incomplete) entered on the record and take the next regularly scheduled examination for a numerical grade. The examination may not be taken after exclusion for low scholarship. Permission to take an examination before the regularly scheduled date will not be granted.

A student who has been excused from taking a regular examination and who is a candidate for a degree to be conferred prior to the next regular examination in the subject may petition the Academic Scholarship Committee, which may authorize such action as the circumstances require.

Research Papers

The preparation of a research paper is required in lieu of an examination in seminars and other courses, as indicated in the course descriptions. To receive a numerical grade on a research paper, the paper must be submitted by the last day of classes in the semester or, with the permission of the instructor, by the last day of the

examination period (the last day of any examination given in any course). For sufficient reason, the instructor may extend the deadline up to the last day of the examination period of the following semester; if the extension is to a date beyond the normal graduation date for the student, the express permission of the dean is required. When a deadline for a paper is extended, the following conditions apply: (1) no student will receive any credit for the course for any purpose until a paper acceptable to the instructor has been submitted; (2) the only grade the student may receive for the course is *CR* (Credit) or *NC* (No Credit). To receive credit, a minimum grade of 65 is required for J.D. candidates. Failure to submit any paper within the deadline will result in a grade of 45. Students who are candidates for the J.D. degree may register for one course requiring a research paper in each semester; with the approval of the dean, they may register for more than one such course each semester.

The following guidelines have been approved by the faculty and are intended to apply to Law 314, *Independent Legal Writing*, and to research paper courses that satisfy the legal writing requirement. The faculty recommends that the paper's topic and length should receive specific approval by the faculty member. Furthermore, an outline should be submitted, to be followed by a draft. (The purpose of a draft, submitted during the course of the semester, is to allow the student the opportunity to improve the paper. A faculty member has the discretion to require a revised draft or to permit one if so requested by the student. A revised draft is necessary only if the professor requires it.) Approval of the topic, outline, and draft should be by a specific date. The paper should follow the Blue Book style.

Changes in Program of Study

Juris Doctor degree candidates may make changes in their class schedules during the first two weeks of classes. After that time, students may not add courses except with the permission of the dean and may drop courses only with the approval of both the instructor and the dean. Under no circumstances may a student drop a course after the last day of classes in any semester.

Attendance

Regular attendance at classes is required and is necessary for successful work. A student who is deficient in class attendance in any course may be barred from taking the examination.

Exclusion and Probation for Low Scholarship

A student whose cumulative average at the end of any semester falls below 65.0 but is above 64.0 will be put on probation. If such a student fails to raise the cumulative average to 65.0 at the end of the next semester, the student will not be permitted to register for any succeeding semester unless he or she petitions for and receives the permission of the Academic Scholarship Committee; however, all students will be allowed to complete the first two semesters of law study before being subject to such a probation.

A student whose cumulative average at the end of any semester falls below 64.0 will not be permitted to register for any succeeding semester unless the student petitions for and receives the permission of the Academic Scholarship Committee; however, all students will be allowed to complete the first two semesters of law study before being subject to such an exclusion.

A student who fails or receives a grade of No Credit in more than one course over the entire period of law study will not be permitted to register for any succeeding

semester or to graduate unless the student petitions for and receives the permission of the Academic Scholarship Committee.

Students who are registered at the time they receive notice that they will not be permitted to register for the next semester are entitled to withdraw from school and receive a full refund of the tuition paid for the semester or to complete the work for which they are registered.

For this purpose the term "semester" includes the summer session.

Procedure for Reinstatement

Any student excluded may petition the Academic Scholarship Committee for reinstatement. The Committee will readmit the student if he or she can demonstrate 1) that the low grades were due to circumstances beyond his or her control and 2) that he or she has the capacity to pursue the study of law with a definite likelihood of success. The Committee may place conditions on a student's readmission; for example, the Committee may require that the student take specific courses or it may place limits on outside employment.

Continuous Enrollment

Degree candidates are expected to maintain continuous enrollment until all degree requirements are satisfied. By failing to register for one semester or more, the student is dropped from the University's rolls and must be readmitted (see Readmission below). A student who has been granted a leave of absence must maintain continuous enrollment by paying the University registration fee and having the appropriate status noted at the time of registration.

Leave of Absence

A student may petition the dean for a leave of absence from the law school. A leave of absence will be granted only when the request is sufficiently compelling, and no leave of absence will be granted in excess of one academic year. A student who has been granted a leave of absence must comply with the University's registration procedures for maintaining continuous enrollment. Any student who does not maintain continuous enrollment while on a leave of absence will be required to petition the Academic Scholarship Committee for readmission.

Readmission

A student who was previously registered but did not attend during the most recent semester (summer session excluded), and who has not been granted a leave of absence, must apply to the Academic Scholarship Committee for readmission. A readmitted student is required to satisfy the curriculum requirements existing at the time of readmission.

Credit for Courses Taken in Other Departments

With the approval of the dean, second- and third-year students may take a maximum of 6 semester hours of appropriate graduate-level courses in other departments of the University; a grade of at least *B* must be received to obtain credit for such courses; and the grade does not count in computing the cumulative average. Grades of Credit or No Credit resulting from courses taken in other departments will count toward the total of 17 hours allowed under the Credit/No Credit option.

Summer School Credit

Juris Doctor students may earn no more than a total of 6 credit hours from summer programs at other law schools toward their degree. Students planning to attend summer sessions at other law schools and intending to use the credit toward their Juris Doctor program at the Law Center must first have the courses they wish to take approved by the dean. Students may not take courses in summer sessions at other law schools in this vicinity if the same courses are being given during the summer session at the National Law Center. A student must earn a grade of C or better to receive a grade of Credit at the Law Center; and the grade does not count in computing the cumulative average. Grades of Credit or No Credit resulting from courses taken at other law schools during the summer will count toward the total of 17 hours allowed under the Credit/No Credit option. Credit will not be recognized in excess of that which can be obtained in a similar period at the National Law Center. Students who register at another law school must provide the dean with an official transcript of their work there promptly on its completion.

Joint Juris Doctor–Master's Degree Program

Students may pursue a joint degree program and work concurrently toward both the Juris Doctor degree in the National Law Center and a master's degree in selected fields in the University's Graduate School of Arts and Sciences, School of Business and Public Management, Elliott School of International Affairs, School of Education and Human Development, or School of Engineering and Applied Science. Fields of study in this program include business administration, economics, international affairs, political science, and public administration. Students must be admitted to both the National Law Center and, separately, to the school that will confer the master's degree and must meet all requirements in each degree program. It is possible for a student to complete work for both degrees within four years.

Graduate Programs

The National Law Center offers advanced degree programs leading to the Master of Laws and Doctor of Juridical Science degrees. Both programs offer an opportunity for attorneys to deepen their understanding of the law.

The Master of Laws Degree

The Master of Laws candidate may follow a program of general study and design an individual program or may concentrate in one of the specialized areas listed below. Most courses in these specialized areas are included in the 500-600 series. Graduates who complete their work in one of these areas may have the field of specialization noted on their diplomas.

- Environmental Law
- Government Contracts Law
- Intellectual Property Law
- International and Comparative Law
- Land Use Management and Control Law

Entrance Requirements

For applicants with an American law degree, a Juris Doctor or equivalent degree is required from a law school that is a member of the Association of American Law Schools or is approved by the American Bar Association. The applicant must have demonstrated a high degree of academic excellence in earning the first law degree.

Foreign attorneys must have completed a law degree with high academic standing from a recognized foreign university. Foreign attorneys may also need to meet the minimum language test requirement (see below).

Advanced standing is not granted for credit earned while a candidate for the first law degree or for credit earned at other law schools.

Admission

American Attorneys

Application forms are available at and should be returned to the Admissions Office of the National Law Center, George Washington University, Washington, D.C. 20052.

Applications are due in the Admissions Office by June 1 for the fall semester, October 1 for the spring semester, and one month prior to the beginning of the summer session for which application is made.

Foreign Attorneys

Foreign attorneys are admitted to the Master of Laws program beginning in the fall semester only. Application forms are available at and should be returned to the International Legal Studies Program, National Law Center, George Washington University, Washington, D.C. 20052.

Applications are due in the International Legal Studies Program Office by May 1.

Test of English as a Foreign Language (TOEFL)

Students whose native language is not English are required to take the Test of English as a Foreign Language and attain a score in the 600-point range to be

considered for admission at the National Law Center. This is a mandatory requirement. Students are responsible for making arrangements for taking the test and should address inquiries to TOEFL, Educational Testing Service, Princeton, New Jersey 08541, U.S.A. The completed application form should be returned to the Testing Service at Princeton well in advance of the beginning of the semester for which the applicant seeks admission. The test fee, which should be remitted with the application, entitles the student to have the test score sent to three institutions. Registration for the Test of English as a Foreign Language does not constitute application for admission to George Washington University.

The Bulletin of Information, obtainable without charge, contains a description of the test as well as rules regarding application, fees, reports, and the conduct of the test; lists of examination centers; examination dates; and an application blank. On the application for the test, the student should specify that the scores be sent to the International Legal Studies Program Office of the National Law Center.

Degree Requirements

In order to earn the Master of Laws degree, all students must fulfill the following requirements: completion of 24 semester hours of credit; attendance for a residence period of not less than two semesters, which should be consecutive; achievement of a cumulative grade point average of 75 (72 for foreign attorneys) at the time all requirements are met; completion and acceptance of a thesis (may be waived for foreign attorneys—see Thesis Waiver below); completion of all requirements at the National Law Center and within a period of three years; and, for foreign attorneys only, completion of Law 622 (Introduction to American Law).

In addition, candidates for the degree in a specialized program must complete a minimum of 12 hours in courses in the field (including 4 hours of thesis), and must have their schedules approved by the program director. Courses in the five specialized LL.M. fields above are listed on pages 68–72.

Thesis Requirement

Each candidate for the LL.M. degree must write a master's thesis (Law 599-600) under the supervision of a full-time member of the faculty of the National Law Center. Four hours of credit toward the degree is given for successful completion of the thesis. The thesis is expected to be a scholarly paper of the same quality and length as a law review article.

The thesis in its final form must be presented to the adviser no later than the date specified in the Academic Calendar. When the thesis is accepted, three copies of the final thesis are required. It is the responsibility of the candidate to obtain from the assistant dean for graduate programs a printed copy of the regulations governing the style and reproduction of theses. The thesis binding fee of \$15 must be paid at the time of registration for the last semester of work.

Students who are unable to finish the thesis during the semester in which they have registered for Law 600 must maintain continuous enrollment until the thesis has been completed (see Continuous Enrollment).

Accepted theses become the property of the University and are placed in the University's Gelman Library and the Jacob Burns Law Library, where duplicate copies are bound and made available for circulation.

The National Law Center encourages publication of LL.M. theses in appropriate scholarly journals with an acknowledgement that the thesis was submitted in partial fulfillment of the LL.M. degree at the The George Washington University.

Thesis Waiver

Foreign attorneys who are candidates for the LL.M. degree may request a waiver of the thesis requirement. A candidate for the degree in a specialized field must submit the request in writing to the director of the program in that field. A student in the general LL.M. program must submit the request to the director of the International Legal Studies Program. All requests for a thesis waiver must be submitted no later than the beginning of the final semester or summer session before the student's graduation. Approval of such a request will be granted only if the student has demonstrated research and writing ability by successfully completing a substantial research paper in a course or as an independent writing project.

Academic Regulations

Academic Work Load

Master's candidates without substantial outside employment may take a maximum of 12 credit hours per semester. Students with more than 20 hours of outside employment must take a limited program of study not to exceed 8 credit hours. The minimum load is 4 credit hours unless approval for fewer hours is given by the dean.

Academic Evaluation

Grades

Grades are given in numerical terms equivalent to letter grades as follows.

85-100 A, Excellent

75-84 B, Good

65-74 C, Poor—Below standard for the LL.M. degree

45-64 F, Failure

Graduate students may not elect to take graded courses on a Credit/No Credit basis. No credit is given for grades below 65. A student who has been excused from taking a regularly scheduled examination is given the grade of I, Incomplete. A student who fails to take an examination and is not excused receives a grade of 45. See Examinations, below, for rules governing makeup examinations.

The cumulative average of a student includes all grades in all courses taken while a candidate for a given degree.

No grade may be changed by an instructor after it has been posted in the Law Center or disclosed to a student unless there has been an error in arithmetic that has been certified in writing by the instructor.

Honors

The degree of Master of Laws "With Highest Honors" is awarded students who obtain a minimum cumulative average of 85.

Examinations

Written examinations are held at the end of most courses. Every student is required to take the regular examinations unless excused. If a student fails to take an examination, a grade of 45 will be recorded unless the student has been excused from the examination or has obtained the dean's permission to drop the course. No excuse for absence will be granted except by the dean and then only for illness or other emergency. Application for excuse must be made in writing as soon as

possible but not later than one month after the date of the examination. A student who has received an excused absence for a graded course has two options: The student may comply (prior to the completion of the semester following the excused absence) with the instructor's procedure of evaluation on a Credit/No Credit basis (minimum grade of 75 required for LL.M. candidates) or the student may have the grade of *I* (Incomplete) entered on the record and take the next regularly scheduled examination for a numerical grade. Permission to take an examination before the regularly scheduled date will not be granted.

A student who has been excused from taking a regular examination and who is a candidate for a degree to be conferred prior to next regular examination in the subject may petition the Graduate Studies Board, which may authorize such action as the circumstances require.

Research Papers

The preparation of a research paper is required in lieu of an examination in seminars and other courses, as indicated in the course descriptions. To receive a numerical grade on a research paper, the paper must be submitted by the last day of classes in the semester or, with the permission of the instructor, by the last day of the examination period (the last day of any examination given in any course). For sufficient reason, the instructor may extend the deadline up to the last day of the examination period of the following semester; if the extension is to a date beyond the normal graduation date for the student, the express permission of the dean is required. When the deadline for a paper is extended, the following conditions apply: (1) no student will receive any credit for the course until a paper acceptable to the instructor has been submitted; (2) the only grade the student may receive for the course is *CR* (Credit) or *NC* (No Credit). To receive credit, a minimum grade of 75 is required for LL.M. candidates. Failure ultimately to submit any paper for the course will result in a grade of 45.

Changes in Program of Study

Master of Laws candidates may make changes in their class schedules during the first two weeks of classes. After that time, students may not add courses and may drop courses only with the approval of the instructor and the dean. Under no circumstances may a student drop a course after the last day of classes in any semester.

Credit for Courses Taken in Other Departments

Master of Laws candidates may be permitted to take graduate courses related to their fields of interest in other departments of this University. A maximum of 6 semester hours will be credited toward the degree for such courses. The grade of *CR* (Credit) or *NC* (No Credit) will be recorded for such courses; a student must earn a grade of at least *B* to receive a Credit.

Consortium of Universities of the Washington Metropolitan Area, Inc.

A candidate for the Master of Laws degree may take graduate courses at Georgetown University Law Center through the Consortium of Universities of the Washington Metropolitan Area. A maximum of 6 semester hours of such courses may be credited toward the master's degree. Permission to take Consortium courses must be granted by the dean, the registrar, and the instructor offering the course. The grade of *CR* (Credit) or *NC* (No Credit) will be recorded for such courses. To receive the grade of *CR* a student must attain a grade of *C* or higher.

Continuous Enrollment

Degree candidates are expected to maintain continuous enrollment until all degree requirements are satisfied. Students who have previously enrolled in Law 599-600, *Thesis*, and have not completed their thesis must continue to be enrolled each semester up to and including the semester of their graduation. A student who fails to register for one semester or more is dropped from the University's registration rolls and must apply to the law school for readmission.

Readmission

A student who fails to register for one or more semesters will be required to apply for readmission in order to continue in the degree program. Application for readmission should be made to the Graduates Studies Board.

Attendance

Regular attendance at classes is required and is necessary for successful work. A student who is deficient in class attendance in any course may be barred from taking the examination.

The Doctor of Juridical Science Degree

Programs leading to the degree of Doctor of Juridical Science offer a very small number of unusually talented students, who have already earned the Master of Laws degree, the opportunity to concentrate on research and writing in a specific area of interest.

Entrance Requirements

American Attorneys

Admission to the Doctor of Juridical Science degree program requires a Bachelor of Arts or equivalent degree from an approved college or university; a Juris Doctor or equivalent degree, earned with high rank, from a law school that is a member of the Association of American Law Schools (AALS) or is approved by the American Bar Association (ABA); a Master of Laws degree with high academic standing; outstanding capacity for scholarly work in the field of law; and faculty approval of the applicant's dissertation topic. Applicants must demonstrate their writing ability by submitting the master's thesis or a copy of one or more papers or articles that the applicant has written. Following consultation with the dean, the applicant must obtain a faculty adviser, to be designated committee chairman, from the regular, full-time faculty; reach agreement on the acceptability of the proposed topic for the dissertation; and submit a detailed outline for the adviser's approval, indicating by chapter and division within chapter the exact scope of the project. There should be a bibliography for each chapter, listing books, reports, cases, and law review articles to be considered. Although the outline cannot predict every detail of the subsequent research, it must be sufficiently definite to afford the Graduate Studies Board a basis for evaluation.

Once the outline is approved, the applicant's committee is expanded to three members; this consultative committee must recommend the acceptance of the applicant to the full Graduate Studies Board. The Board then acts upon the recommendation and may either accept or reject the applicant as an S.J.D. candidate. In no instance will any applicant be admitted to degree candidacy prior to the above procedures; however, the applicant may be registered as an unclassified student for

purposes of completing the 8 semester hours of course work requirements (see below). Approval for degree candidacy must be received within one year of the appointment of an adviser unless a written extension is granted by the dean.

Foreign Attorneys

To be considered for admission to the Doctor of Juridical Science degree program, individuals who received their first law degree outside the United States must have obtained an LL.M. or its equivalent with highest honors from a duly accredited (ABA or AALS) American law school and their first law degree with comparable honors.

Admission to the S.J.D. program will be limited to a very small number of the most qualified applicants whose research proposals are determined to be of special interest to one or more members of the regular, full-time faculty. Applicants must, therefore, submit with their application a letter outlining their S.J.D. research plans.

Degree Requirements

Candidates for the Doctor of Juridical Science degree must complete the following requirements in order to be awarded the degree: A residence period of not less than one academic year; a course of study and research, designated by the dissertation committee, of no less than 8 credit hours; and completion and acceptance of a dissertation (see below).

The Dissertation

The dissertation must be submitted no later than three years from the date of admission to candidacy for the S.J.D. degree. The applicant who proposes to write on a comparative law topic must have a reading knowledge of the language in which the relevant materials are to be found. When the dissertation is submitted, the consultative committee will set the date for oral examination. This examination is conducted by the consultative committee and such other members of the faculty and qualified experts as are selected by the Graduate Studies Board.

No later than the date specified in the Academic Calendar, the candidate must submit to the dean two complete copies of the dissertation and two copies of an abstract of the dissertation.

Printed copies of detailed regulations regarding the form and reproduction of the dissertation and preparation of the abstract are available in the Office of the Dean. To be acceptable, the dissertation must, in the opinion of the examining committee, constitute a substantial contribution to the field of law concerned and be suitable for publication. Additional information will be supplied by the dean. Accepted dissertations become the property of the University and are placed in the University's Gelman Library and the Jacob Burns Law Library, where duplicate copies are bound and made available for circulation.

Fees and Financial Regulations

The following fees and financial regulations were adopted for the 1990 summer sessions and the 1990-91 academic year.

Tuition Fees

J.D. candidates:

Full-time program (11 or more hours), each semester	\$7,625
Part-time program, each credit hour	545
Master's degree candidates, each credit hour:	
New students	545
Returning students	415
Continuing Legal Education students, each credit hour	545
S.J.D. candidates,* full program, including the final examination	15,250

Marvin Center Fee (charged all students registered on campus)

Each semester hour, to a maximum of \$120 per semester	12
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Registration Fee (charged all students per semester and summer registered)

25

Special Fees

Application fee (degree candidate), nonrefundable	45
Tuition deposit fee charged each student admitted to J.D. degree candidacy (payable in two installments—\$100, nonrefundable, by a date specified in the letter of admission; \$500, nonrefundable, by mid-June)	600
Graduation fee (charged all students applying for graduation)	75
Fee for binding Master's theses and S.J.D. dissertations	15
Late-registration fee, for failure to register within the designated period:	
During first week of classes	50
After first week of classes (if permitted)	100
Late-payment fee, charged for failure to make payments when due (see Payment of Fees, below)	15
Replacement of lost or stolen picture identification card	5
Financial reinstatement fee, for reinstatement after financial encumbrance for nonpayment of fees (see Payment of Fees, below)	35
Returned check fee, charged a student whose check is returned because of insufficient funds or for any other reason	15
Transcript fee	3

Registration on campus in the University entitles each student to the following privileges: the services of the Career and Cooperative Education Center; the use of the University library; gymnasium privileges; and admission to all athletic contests, unless otherwise specified. These privileges terminate and a student is no longer in residence upon withdrawal or dismissal from the University.

* The tuition fee is to be paid at the rate of \$3,812.50 per semester for four successive semesters, exclusive of the summer term or terms. If the Faculty should approve an extension of time, the student must maintain enrollment.

Payment of Fees

No student is permitted to complete registration or attend classes until all charges are paid or until arrangements for payment have been made. Tuition and fees for each semester are due and payable in full at the Office of the Cashier at the time of each registration. Checks and postal money orders should be made out to George Washington University with student identification number shown in the upper left-hand corner.

The Student Accounts Office has responsibility for billing and maintaining student accounts for tuition, various fees, and room and board charges. Students registered for 6 semester hours or more may sign a deferred payment contract with the Student Accounts Office at the time of each registration, permitting them to pay one-half of the total tuition and fees (except for fees payable in advance) at the time of registration and the remaining half on or before Wednesday of the eighth week of classes for the fall and spring semesters. Interest at the rate of 12 percent per annum on the unpaid balance will be charged from the date of registration to the date payment is made. A 10-month payment plan is also available.

Students receiving tuition assistance in the form of scholarships, government tuition contracts, or other forms of tuition awards are not permitted to sign deferred payment contracts unless the total tuition and fee charges exceed the value of the tuition awards by \$2,600 or more. Under such circumstances the student may be permitted to pay one-half of the amount due from the student at the time of registration and to defer the balance by signing a deferred payment plan.

Students who fail to make any payment when due will be automatically charged a \$15 late-payment fee and will be subject to the interest charge of 12 percent per annum. Accounts that become 30 days past due will be financially encumbered. In the event a student's account is financially encumbered, the student forfeits rights to the use of deferred payment contracts in future semesters, and the Student Accounts Office will notify the Registrar to withhold grades, future registration privileges, transcripts, diplomas, and other academic information until the account is settled financially. Financial settlement will require payment in full of all amounts due the University in addition to a financial reinstatement fee of \$35.

Returned Check Policy—A student whose check is returned unpaid by the bank for any reason will be charged a returned check fee. If the check is not paid within 15 days, the student's account will be financially encumbered, with the same restrictions and penalties as for late payment enumerated above.

Prepaid and Deferred Payment Plans

Several commercial programs are available for those who wish to pay the costs of their education on a monthly basis. Terms and conditions vary, but most provide a life insurance policy in the contract. For specific details and applications, address inquiries to the following:

- Mellon Bank Edu-Check Plan, P.O. Box 8888, Wilmington, Del. 19899
- Richard C. Knight Insured Tuition Plan, 53 Beacon Street, Boston, Mass. 02108
- School-Chex, Irving Trust Company, 61 Broadway, New York, N.Y. 10007
- Educational Loan Program, The Riggs National Bank, 1913 Massachusetts Ave., N.W., Washington, D.C. 20035
- The Tuition Plan, Inc., Concord, N.H. 03301
- Tuition Line, Maryland National Bank, Consumer Banking Division, P.O. Box 1954, Baltimore, Md. 21203

Withdrawals and Refunds*

Applications for withdrawal from the University or for change in class schedule must be made in person or in writing to the Dean. Withdrawal from courses is permitted after the midpoint of a semester only in extraordinary circumstances. Notification to an instructor is not an acceptable notice.

In authorized withdrawals and changes in schedule, cancellations of semester tuition charges and fees will be made in accordance with the following schedule for the fall and spring semesters:

1. Complete withdrawal from the University:

Withdrawal dated on or before the end of the first week of the semester	80%
Withdrawal dated on or before the end of the second week of the semester	60%
Withdrawal dated on or before the end of the third week of the semester	40%
Withdrawal dated on or before the end of the fourth week of the semester	25%
Withdrawal dated after the fourth week of classes	None

2. *Partial withdrawal*: If the change in program results in a lower charge, the refund schedule above applies to the difference.

3. Regulations governing student withdrawals as they relate to residence hall and food service charges are contained in the specific lease arrangements.

Refund policies of the University are in conformity with guidelines for refunds as adopted by the American Council on Education.

In no case will tuition be refunded or reduced because of absence from classes. Authorization to withdraw and certification for work done will not be given a student who does not have a clear financial record.

Students are encouraged to provide their own cash funds until they can make banking arrangements in the community.

*The \$600 deposit required of entering students is nonrefundable.

Financial Aid

The National Law Center assists many students in obtaining financial aid through grants, various loan programs, or a combination of these kinds of assistance.

Juris Doctor Program

The National Law Center participates in the Graduate and Professional School Financial Aid Service (GAPSFAS), which provides an analysis of an applicant's financial need. Entering students wishing to receive financial aid should file the GAPSFAS form after January 1. Forms are available at most university financial aid offices. The information provided by the applicant and the applicant's parents will be analyzed and a copy of the report will be sent to the Law Center.

Students seeking financial assistance should file with GAPSFAS in time for their reports to be received at the Law Center as early as possible. University funds will be awarded on the basis of financial need. In determining financial need, the Financial Aid Office considers information provided by GAPSFAS and Federal tax returns. The Committee on Student Financial Aid of the Law Center will begin making awards in March, and available funds are limited.

No awards will be made to an entering student until the admission process has been completed.

Sources of Financial Aid

Financial aid has been made available from many friends and alumni of the Law Center. The scholarships include the following:

Arent, Fox, Kintner, Plotkin & Kahn
Scholarship

Mildred Gott Bryan Scholarship

Jacob Burns Honor Scholarship

Charles Worthington Dorsey
Memorial Scholarship

Samuel Green Phi Delta Phi
Scholarship

Patricia Roberts Harris Scholarship

Howrey and Simon Scholarship

Hunton and Williams Scholarship

Thomas Searing Jackson Scholarship

Jacob and Charlotte Lehrman
Foundation Scholarship

Manatt-Phelps Banking Law Scholarship

Robert Netherland Miller Scholarship

Phi Delta Delta Scholarship

Donald C. Snyder Scholarship

William Pinckney Walker Memorial
Scholarship

Frank S. Whitcomb Scholarship

Glen A. Wilkinson Scholarship

J. McDonald and Judith K. Williams
Scholarship

Loan Funds

Through the generosity of friends of the University, a number of loan funds are available. Among them are the Lyle T. Alverson Loan Fund; the Robert Ash Loan Fund; the George R. Beneman Loan Fund; the Morris and Gwendolyn Cafritz Foundation Minority Law Student Loan Fund; the Robert M. and Mary McConnell Cooper Loan Fund; the Robert McKinney Cooper Memorial Loan Fund; the Mitchell S. Cutler Memorial Loan Fund; the J. Forrester Davison Loan Fund; the Clifford A. Dougherty Fund; the District of Columbia Bar Association Loan Fund; the Louise F. Ehrlich Foundation Loan Fund; the Newell W. Ellison Loan Fund; the J.W. Freeman Memorial Student Loan Fund; the Harold L. and Violet George Foundation Loan Fund; the George Washington Law Association Loan Fund; the Morris Golub Loan Fund; the Frederick O. Graves Law Student Loan Fund; the John B., Jr., and Carol H. Holden Loan Fund; the Jephson Educational Trust Loan Fund; the Susan and Anne Kondrup Memorial Fund; the Law Association Loan Fund for the law classes of

1912, 1918, 1921, 1924, 1929, 1931, 1933, 1935, 1936, 1937, 1938, 1939, 1941, 1942, 1945, 1950, 1951, 1952, 1953, 1955, 1959, 1960, 1961, 1962, 1963, 1964, 1965; the Law School Loan Fund; the Oscar Lawler Memorial Loan Fund; the Horace L. Lohnes Memorial Assistance Fund; the Jessie B. Martin Loan Fund; the Robert N. Miller Loan Fund; the Joan Murphy Loan Fund; the Mike Pelekiri Loan Fund; the Phi Delta Delta Loan Fund; the W. Theodore Pierson Loan Fund; the Rockport Loan Fund; the Samuel L. Samuel Loan Fund; the H. William Tanaka Law Students Assistance Loan Fund; the Orville Hassler Walburn Memorial Loan Fund; the Kennedy and Judith Watkins Law Student Loan Fund; the Ralph E. West Memorial Loan Fund; the W.H. Williams Memorial Student Loan Fund; the Patricia A. Willoner Loan Fund; the Ruth F. Wilson Loan Fund; the Yadao and Kanemoto Loan Fund; and the Samuel Green Memorial Loan Fund.

Master's and Doctoral Programs

Sources of financial aid include the Marcus B. Finnegan Memorial Fellowship in the field of international intellectual property, Richard Paul Momsen Scholarships for Brazilian Graduate Law Students for the study of U.S. constitutional law and the law of patents and trademarks, Randolph C. Shaw Graduate Fellowships in Administrative Law and Environmental Law, and one Teaching Fellowship for a student appointed to assist the director of the first-year research and writing program.

Application for these programs should be made by March 1. The applicant should submit a letter specifically applying for one of the above programs to the Financial Aid Office. The letter should contain biographical data, information concerning experience in practice or teaching, and any other information that will be of assistance in the consideration of the application.

Students applying for financial aid on the basis of financial need should follow the same guidelines outlined for Juris Doctor candidates.

Veterans Benefits

The veterans counselor, located on the third floor of Rice Hall, 2121 I Street, N.W., assists students entitled to educational benefits as veterans or as widows or children of deceased or totally disabled veterans with any problems that may arise concerning their benefits. This office also processes certification of enrollment and attendance to the Veterans Administration so that monthly allowances will be paid.

When feasible, students entitled to benefits as veterans or dependents of veterans should consult with the veterans counselor prior to submitting an application to the Veterans Administration. All such students should obtain the instruction sheet issued by the Office of the Registrar, which sets forth requirements to be fulfilled before certification of enrollment can be made to the Veterans Administration and which includes other information of general interest. The Veterans Administration is at 941 N. Capitol St., N.E., Washington, D.C. 20421.

Prizes

Bureau of National Affairs Law Student Prize—Presented to an outstanding senior law student.

Jacob Burns Prize—Established by Jacob Burns, a law alumnus and Honorary Trustee of the University. A medal and a cash award presented annually to each of the two members of the winning team in the upper-class Van Vleck Moot Court competition.

The Michael D. Cooley Memorial Prize—A plaque given to that individual in each graduating class who has been most successful in maintaining his or her compassion, vitality, and humanity during law school. The recipient of this award is selected by the graduating class.

Ogden W. Fields Graduate Prize—Awarded annually to the graduate student who has demonstrated the highest overall proficiency in labor law.

Willard Waddington Gatchell Prize—By bequest of Eona Burnett Gatchell in memory of her husband, a cash award presented annually to the three members of the graduating Juris Doctor class who attained the highest grade point averages in their last year of law school.

Charles Glover Prize—Established by Charles Carroll Glover, Jr., an Honorary Trustee of the University, in memory of his great-grandfather, an illustrious member of the bar of the District of Columbia. A cash award given annually to the student who has attained the highest average grade in the third-year, full-time course.

Kappa Beta Pi Prize—Awarded by Eta Alumnae Chapter to the law student who attains the highest average for the first year.

John Bell Larner Prize—By bequest, a plaque awarded annually to the member of the graduating class who attains the highest average grade in the entire course of the degree of Juris Doctor.

John Ordronaux Prizes—By bequest, awarded annually to the student who has attained the highest average grade in the first-year, full-time course and to the student who has attained the highest cumulative average grade at the end of the second-year, full-time course.

Richard L. Teberg, J.D. 1964, Prize—Awarded annually to that graduate of the J.D. program who has demonstrated the highest overall proficiency in the courses in securities law.

Jennie Hassler Walburn Prize—A cash award to the outstanding students in the field of civil procedure, established by the will of the late Professor Orville Hassler Walburn in memory of his mother.

Imogen Williford Constitutional Law Prize—Established by Imogen Williford, J.D. 1929. A cash award presented to the outstanding student in the field of constitutional law.

General Information

Day and Evening Classes

Day classes meet in 50-minute periods, Monday through Friday. The majority of evening classes meet from 5:50 to 7:40 p.m., Monday through Friday.

A four-credit course, e.g., *Evidence*, meets two evenings a week; most 3-credit courses, e.g., *Administrative Law*, meet one evening a week plus alternate Friday evenings throughout the semester; a 2-credit course, e.g., *Contracts II*, meets one evening a week. The evening division conforms to the academic standards of the day division, with full-time faculty teaching all courses in the required and core curriculum.

Examinations for both day and evening classes may be given in the afternoon. Examinations for day students may be given in the evening.

Summer Session

One session is offered in the summer. No beginning students are admitted to the Juris Doctor degree program in the summer session.

The summer session is shorter than a semester of the academic year, and, as a consequence, residence is calculated on a proportional basis, depending on the number of hours taken.

Registration

Each student must register before attending classes. No student will be registered until proper credentials have been filed (see Admission).

No registration is accepted for less than a semester or summer session. A student may not register concurrently in George Washington University and another institution. Registration in more than one school of the University requires the written permission of the deans concerned, prior to registration.

Registration may be changed only with the permission of the dean.

Eligibility for Registration

A student who is suspended or whose record is not clear for any reason is not eligible to register.

New Student—Upon receipt of a final letter of admission a new student is eligible for registration on the stated days of registration.

Readmitted Student—A student previously registered who was not registered for courses during the preceding semester or summer session and who has not been granted a leave of absence must apply for and receive a letter of readmission before becoming eligible for registration.

Graduation Requirements

Diplomas are awarded in February, May, and September.

To be recommended by the faculty for graduation, a student must have met the admission requirements of the National Law Center; completed satisfactorily the scholarship, curriculum, residence, and other requirements for the degree for which the student is registered; and be free from all indebtedness to the University. Registration is required for the semester or summer session at the close of which the degree is to be conferred.

Application for Graduation—An application for Graduation must be filed by the date indicated in the Academic Calendar during the last semester or summer

sessions of the final year. Students completing degree requirements during the summer session will be awarded diplomas (no formal convocation) on September 30, provided they have completed all degree requirements and have applied for graduation as part of registration for the summer session. If they wish, such students may participate in the Winter Convocation.

Transcripts of Record

Official transcripts of student records will be issued by the Office of the Registrar on request of the student or former student who has a clear financial record. A fee of \$3 is charged for each transcript.

Student Activities and Student Life

Enrichment Program

The Law Center supplements and enriches its diverse law programs by bringing to the school eminent legal scholars, judges, distinguished members of the bar, members of Congress, and high-level government officials to offer lectures and informal seminars with students and faculty. Participants in the Enrichment Program have included columnist Anthony Lewis, Supreme Court Justices Lewis Powell, Antonin Scalia, Sandra Day O'Connor, Anthony Kennedy, and Harry Blackmun, CIA Director William Webster, Yale University President Benno Schmidt, Senator Bill Bradley, former U.S. Attorney Rudolph Giuliani, Dean Guido Calabresi of Yale Law School, Judge Richard Posner of the U.S. Court of Appeals for the Seventh Circuit, and Professor Ronald Dworkin of Oxford University. The Enrichment Program, funded largely by gifts from alumni and friends of the Law Center, includes several endowed lectureships and a visiting scholar program.

Publications

The *George Washington Law Review*, published five times a year, is edited and managed by the students of the National Law Center. The *Law Review* is known for its emphasis on federal and public law; however, it is also devoted to research in other important legal areas. The staff of the *Law Review* is selected on the basis of grades and a writing competition. The editorial board is selected from those students who have successfully completed the first year of *Law Review* work. Students receive 4 semester hours of academic credit for the two-year program.

The *George Washington Journal of International Law and Economics* is managed and edited by law students. It presents articles and commentaries on public

and private international financial development, comparative law, and international law. The staff of the *Journal* is selected on the basis of criteria identical to those used by the *Law Review*, and students earn up to four semester hours of academic credit for their work.

Moot Court

The moot court competitions and programs provide realistic training in appellate and trial advocacy. The Moot Court Board, which administers moot court programs at the National Law Center, is a student organization dedicated to promoting excellence in written and oral advocacy. The Board assists the faculty in administering the moot court program for the first-year class and sponsors the Van Vleck Appellate Moot Court Competition, the Jessup Cup competition in international law, the Giles S. Rich competition in patent law, and the Student Trial Lawyers Association trial competition. In addition, the Board sends student teams to inter-scholastic competitions across the nation.

Law Center Student Organizations

The Advocate

Asian-Pacific American Law Student Association

Black Law Student Association

Christian Legal Society

Entertainment and Sports Law Society

Environmental Law Association

Equal Justice Foundation

Federalist Society

Gay and Lesbian Law Association

GW Republican Student Lawyers Association

International Law Society

Jewish Law Student Association

Law Association for Women

Law Fraternities and Sororities

Law Students Civil Rights Research Council

Moot Court Board

Movimiento Legal Latino

National Lawyers Guild

Student Bar Association

Student Health Law Association

Student Intellectual Property Law Association

Student Trial Lawyers Association

Facilities and Services

The National Law Center

The Law Center is comprised of three adjoining buildings: Theodore N. Lerner Hall, Stockton Hall, and the Jacob Burns Law Library. Lerner Hall is a modern and innovative teaching facility. Its five levels contain classrooms, the dean's suite, and the Moot Court Room. Four of its eight classrooms are constructed in amphitheater style and are equipped with advanced sound systems and full video and viewing capabilities. Stockton Hall contains administrative offices, the Community Legal Clinics, classrooms, faculty offices, a reading room, a media center, and a student lounge. The Jacob Burns Law Library houses faculty and student organization offices and a computer room as well as its extensive collection.

The Jacob Burns Law Library

The use of a law library is inherently different from the uses of most other libraries. A law library is often likened to the scientist's laboratory. Most law books are used briefly on the premises rather than checked out for thorough reading. Law students spend many of their waking hours in the library, using books or other research facilities. Care has therefore been taken in making the Jacob Burns Law Library not only efficient but beautiful and comfortable.

The collection numbers over 400,000 volumes and volume equivalents. It contains a comprehensive research library of Anglo-American law, including the annotated statutes of the federal government, the 50 states, the territories, and other common-law countries as well as the reported decisions of all these jurisdictions, in all editions and often in multiple copies. The library is especially strong in administrative and regulatory material and congressional coverage. It was designated a United States Government Depository Library in 1978 and is, through this program, acquiring a substantial government documents collection.

The extensive treatise collection covers not only the field of law but law-related disciplines such as business, finance, economics, labor relations, sociology, criminology, psychology, political science, biography, foreign affairs, environmental studies, and others. Especially strong collections are maintained for tax law, labor law, intellectual property law, and international law. A portion of the holdings of the former Library of the Carnegie Endowment of International Peace, acquired by the University in 1950, has been incorporated into the library. Another especially rich component is the periodical collection. A growing proportion of these research materials is collected in a variety of microformats or on audio- or videotapes. In addition to the materials available in-house, the library can gain access to almost unlimited information sources of a legal or law-related nature through the various computer databanks to which it subscribes, such as LEXIS, WESTLAW, Dialog, Nexis, and VU/TEXT.

A permanent staff of 27 persons and many part-time employees administers and maintains the library and offers information, instruction, and other research support services. *Jacob Burns Law Library Readers' Guide*, available at the information desk, lists library services, hours of operation, collection locations, and other library-related information.

Beyond the resources of the Jacob Burns Law Library, GW law students have access to the George Washington University Library (Gelman), the Medical Library (Himmelfarb), and other famous libraries in the District of Columbia, including the Library of Congress.

Career Development and Placement Services

The Career Development Office provides a full range of services to support the career decision-making process. Students, graduates, and prospective employers are served through a variety of programs, including systems of job-vacancy advertising; newsletters of current career information; individual and group counseling on resume preparation, interviewing skills development, and job-search strategy; a career resource library; and forums and panel presentations covering legal career topics as well as employment options.

A strong campus interviewing program is organized in the fall of each academic year to enable prospective employers to interview second-year students for summer positions and third- and fourth-year students and LL.M. candidates for permanent positions. In 1989, the 490 participating employers represented 39 states and the District of Columbia and included private law firms, legal services offices, corporations, government agencies, accounting firms, and District Attorney's offices.

During the fall of 1989, the Career Development Office conducted regional off-campus interviewing programs in New York City, Central New Jersey (New Brunswick), New England (Boston), Philadelphia, Northern California (San Francisco), Southern California (Los Angeles), and Chicago (the last program was offered in cooperation with the Georgetown University Law Center). These programs supplemented the campus interviewing process by providing students exposure to 77 employers that did not interview on the George Washington University campus.

In addition to the structured interviewing programs offered during the fall, the Career Development Office organizes other options for employer/student contact. Approximately 128 employers who were unable to interview on the George Washington University campus requested that the Career Development Office collect resumes for their review and follow-up. Other employers requested that students contact them directly. Through this process, 300 summer positions and positions for 1990 graduates were listed.

The National Law Center is a member of the Consortium of Washington, D.C., Area Law Schools, which sponsors the Public Service/Public Interest Interviewing Day in the spring semester. The 1990 program hosted 26 organizations representing government agencies, public interest organizations, and legal services offices.

The Career Development Office hosted the Consortium's Third Annual Washington, D.C., Area Small-Firm Interviewing Program in the spring of 1990, with 41 employers participating during two days of interviews. The purpose of this regionally targeted program is to increase the number and variety of legal opportunities for the 50-60% of the graduating class wishing to find employment with small firms in the D.C. metropolitan area.

Each year in February, the Career Development Office conducts a survey of the previous year's graduates. Responses from 375 members of the 1989 graduating class showed 67% in private practice, 11% in government (including the military), 11% in judicial clerkships, 8% in business and industry, 2% in legal services and public interest, and 1% in academic pursuits.

Continuing Legal Education

Members of the Bar who wish to keep abreast of current developments in the law may register for any of the courses in the National Law Center on a noncredit basis as Continuing Legal Education students. Specific courses are also open to nonlawyers whose special qualifications justify their registration. Such students do not take examinations in courses and no grades are recorded for their work.

A simplified admission and registration procedure is used and must be completed on or before the last day of regular registration for the appropriate semester. Continuing Legal Education students pay only the tuition fee on the semester-hour basis. They may not participate in student activities or benefit from the medical privileges of the University. (Continuing Legal Education registrations are subject to cancellation if courses are filled by regularly registered students.)

Housing

The University does not provide regular residence hall space for graduate students. However, the Housing and Residence Life Office refers graduate students to apartments as they become available in University-owned buildings in the campus area. Additionally, the University's Off-Campus Housing Resource Center can provide information and assistance for those seeking accommodations.

Food Service

Contract food service is available from August to May, based on the undergraduate academic calendar of registration, exams, and vacation periods. Accommodations for the law school calendar are made. Rates for the various meal plans are available from the Housing and Residence Life Office. Contract service is cafeteria style and provided in two residence halls and the Cloyd Heck Marvin Center. Meal coupons may also be used on a cash-equivalency basis in the cafeteria on the first floor of the Marvin Center and in George's on the fifth floor.

Cloyd Heck Marvin Center

The Cloyd Heck Marvin Center serves as the campus community center, providing services, conveniences, and recreational and social opportunities for students, faculty, staff, alumni, and guests. Its wide range of facilities provides the setting for a variety of programs conducted by the University Program Board, the departments offering course work in the performing arts, and other student and faculty organizations. The Center Governing Board, representing varied segments of the University community, plays an important role in the day-to-day functioning of the Center. This Board works closely with the full-time staff in the development of procedures and policies that provide a framework for the Center's operation.

Student Health Service

The Student Health Service is an outpatient clinic located at 2150 Pennsylvania Avenue, N.W. (entrance on 22nd Street).

The Health Service is staffed by physicians, nurse practitioners, and physician assistants who are capable of addressing most of students' medical problems. Visits may be either arranged by appointment or, during certain hours, secured on a walk-in basis. Most routine laboratory tests may be performed in the Health Service lab at cost, many common medications are stocked to fill students' prescriptions, and allergy shots and immunizations are administered by the staff nurse for a minimal charge. A psychiatrist works in the Health Service to assist students with mental health concerns.

For serious emergencies occurring during hours when the Student Health Service is closed, students may go to the Emergency Room of the University Hospital for treatment. This arrangement is for emergency care only and all fees are the responsibility of the student.

Students must be currently enrolled on campus in the University to receive treatment at the Student Health Service. Students enrolled in off-campus programs and the Continuing Legal Education Program are not eligible. Students who so desire may engage physicians and nurses of their own choice, but these students will be responsible for all fees charged. The bills incurred from all services rendered outside the Student Health Service (for example, x-ray work, laboratory work, and referrals to specialists or other outside physicians) are the responsibility of the student.

Health and Accident Insurance

The University has arranged for and endorsed group health and accident insurance, on an elective basis, for those students who do not have other coverage. Interested students should contact the Student Health Service or Office of the Dean of Students.

Disabled Student Services

The Director of Disabled Student Services coordinates advising, orientation, and special services that address the needs of disabled students. The Director also serves as a central point of contact from which the University community may obtain information and assistance in serving disabled students. A resource library maintained in the office is available for general use.

In addition to coordinating a program of general assistance to promote integration of disabled students as fully as possible into the life of the University community, the Director administers reading and sign language services for those with visual and auditory handicaps.

The office is located on the fourth floor of Rice Hall, 2121 I Street, N.W.



University Regulations

University Policy on Equal Opportunity

George Washington University does not discriminate against any person on the basis of race, color, religion, sex, national origin, age, handicap, or veteran status. This policy covers all programs, services, policies, and procedures of the University, including admission to educational programs and employment. The University is also subject to the District of Columbia Human Rights Law.

Inquiries concerning the application of this policy and federal laws and regulations regarding discrimination in education or employment programs and activities

may be addressed to Susan B. Kaplan, Special Assistant to the President, George Washington University, Washington, D.C. 20052, (202)994-6500, or to the Assistant Secretary for Civil Rights of the U.S. Department of Education.

Academic Dishonesty

The University community, to fulfill its purposes, must establish and maintain guidelines of academic behavior. All members of the community are expected to exhibit honesty and competence in their academic work. Incoming students have a special responsibility to acquaint themselves with, and make use of, all proper procedures for doing research, writing papers, and taking examinations.

Members of the community will be presumed to be familiar with the proper academic procedures and held responsible for applying them. Deliberate failure to act in accordance with such procedures will be considered academic dishonesty. Acts of academic dishonesty are a legal, moral, and intellectual offense against the community and will be prosecuted through the proper University channels.

Copies of the University policy on academic dishonesty can be obtained from the following offices: all department chairmen, all academic deans, and the Vice President for Academic Affairs.

University Policy on the Release of Student Information

The Family Educational Rights and Privacy Act of 1974 applies to institutional policies governing access to and release of student education records maintained by educational institutions that are recipients of federal funds. The University complies with this statute, which states, in part, that such institutions must:

1. afford students access to education records directly related to them;
2. offer students an opportunity for a hearing to challenge such records as inaccurate, misleading, or otherwise inappropriate;
3. receive the student's written consent before releasing information from his or her education records to persons outside the University, except for directory information as indicated below. Information may be furnished to a student's parents without such written consent only upon certification of the student's financial dependency; and
4. comply with a judicial order or lawfully issued subpoena to release a student's record, notifying the student of this action.

The University will release the following directory information upon request: name, local address, and telephone number; name and address of next of kin; dates of attendance; school, college, or division of enrollment; field of study; credit hours earned; degrees earned; honors received; participation in organizations and activities chartered or otherwise established by the University (including intercollegiate athletics); and height and weight of members of athletic teams. A student who does not wish such directory information released must file written notice to this effect in the Office of the Registrar at the beginning of each semester or session of enrollment.

Copies of the University's full policy statement on the release of student information may be obtained from the Office of the Registrar.

Right to Change Rules

The University and its college, schools, and divisions reserve the right to modify or change requirements, rules, and fees. Such regulations shall go into force whenever the proper authorities may determine.

Right to Dismiss Students

If a student knowingly makes a false statement or conceals material information on an application for admission, registration form, or any other University document, the student's registration may be canceled and the student will be ineligible (except by special action of the faculty) for subsequent registration.

The right is reserved by the University to dismiss or exclude any student from the University or from any class or classes whenever, in the interest of the student or the University, the University Administration deems it advisable.

Right to Make Changes in Programs

The right is reserved by the University to make changes in programs without notice whenever circumstances warrant such changes.

Property Responsibility

The University is not responsible for the loss of personal property. A Lost and Found Office is maintained on campus in the Safety and Security Office.

Student Conduct

All students upon enrolling and while attending The George Washington University are subject to the provisions of the *Guide to Student Rights and Responsibilities*, which outlines student freedoms and responsibilities of conduct, including the Code of Student Conduct, and other policies and regulations as adopted and promulgated by appropriate University authorities. Copies of these documents may be obtained at the Office of Judicial Affairs. Sanctions for violation of these regulations may include permanent expulsion from the University, which may make enrollment in another college or university difficult. Regulations or requirements applicable only to a particular program, facility, or class of students may not be published generally, but such regulations or requirements shall be published in a manner reasonably calculated to inform affected students.

University Policy on Drugs

The University cannot condone violations of the law, including violation of those laws that proscribe possession, use, sale, or distribution of drugs. Members of the academic community should know that administrative action, which may include dismissal from the residence halls, revocation of other privileges, or suspension or dismissal from the University, may be taken in order to protect the interests of the University and the rights of others.

Courses of Instruction

Career Planning and Course Selection

One of the great strengths of the National Law Center is the diversity of its course offerings and the flexibility it offers students to design their programs to fit their interests and career plans. Every spring a series of counseling sessions is held to provide students with an overview of course offerings in various areas of the law and to assist them in selecting courses and defining their career objectives. Students also may consult members of the faculty for course and career planning. In addition, the Career Development Office provides a central storehouse of information regarding many types of legal careers.

While the curriculum after the first year is largely elective, the faculty believes that exposure to certain course work is important. Consequently, the faculty strongly recommends that all students take Administrative Law (342), Corporations (327), Taxation—Federal Income (420), and Trusts and Estates I (390).

The faculty also believes that a generalist J.D. program would normally include most of the following courses and recommends that students take most of them prior to graduation: Conflict of Laws (440), Federal Antitrust Law (452), Labor Law (338), Remedies (380), and one or more of the following: Commercial Paper, Check Collection, and Banking (372), Creditors' and Debtors' Rights (378), and Sales and Sales Financing (370). In addition, the faculty believes that students should consider taking a course that will provide a cross-disciplinary perspective on the law, such as legal history, comparative law, jurisprudence, law and economics, and law, science, and technology.

The Law Center's broad offering of elective courses is listed below. Courses numbered 500 and above are generally more advanced but are open to second- and third-year students who have taken the prerequisite courses. Both second- and third-year students may take more than one such course with the permission of the dean.

Among the courses offering clinical work are: Law 414, 460, 461, 463, 483, 492, 493, 495, 496, 497, 498, 499, and 596.

The courses of instruction listed below are subject to change. The University reserves the right to withdraw any course announced.

Elective Courses and Seminars (300–499)

Administration of Government Contracts (489)	Collective Bargaining and Labor Arbitration (340)
Administrative Advocacy Clinic (493)	Commercial Paper, Check Collection, and Banking (372)
Administrative Law (342)	Community Property/Marital Property (394)
Admiralty (386)	Comparative Law (438)
Agency and Partnerships (322)	Comparative Public Procurement (485)
Air Pollution Control (411)	Complex Litigation (308)
American Legal History (Seminar) (318)	Conflict of Laws (440)
Banking Law I (332)	Constitutional Law (Seminar) (350)
Business Planning (334)	Consumer Mediation Clinic (460)
The Child, the Family, and the State (436)	Corporations (325)
Civil Litigation Clinic (497)	Creditors' and Debtors' Rights (378)
Clinical Studies in Environmental Law (414)	

- Current Problems in Land Use Management Controls (Seminar) (403)
- Disabled People and the Law (482)
- Domestic Relations (434)
- Drugs and the Law (Seminar) (474)
- Employment Discrimination Claims and Litigation (432)
- Employment Discrimination Law (431)
- Environmental Law (410)
- Estate Planning (Seminar) (395)
- Federal Antitrust Laws (452)
- Federal and Appellate Clinic (499)
- Federal Jurisdiction (300)
- Federal Trial Practice (302)
- Foreign Relations, National Security, and the Constitution (443)
- Gender Discrimination and the Law (484)
- Government Contracts (486)
- Government Contracts (Seminar) (490)
- Government Contracts Cost and Pricing (491)
- Government Procurement Law (487)
- Immigration Clinic (494)
- Immigration Law (360)
- Independent Legal Writing (314)
- Insurance (382)
- International Business Transactions (446)
- International Law (444)
- International Sales (371)
- Journal of International Law and Economics (366)
- Jurisprudence (442)
- Labor Law (338)
- Labor Standards (429)
- Land Development Law (408)
- Land Use Administrative Process (404)
- Law and Accounting (324)
- Law and Criminology (479)
- Law of Criminal Corrections (479)
- Law and the Deaf Clinical Education Activities (483)
- Law and Medicine (472)
- Law Review (364)
- Law, Science, and Technology (Seminar) (475)
- Law Students Civil Rights Research Council (496)
- Law Students in Court (495)
- Legal Activism (498)
- Legislation (362)
- Local Government Law (409)
- Mass Communications Law (352)
- Mediation (303)
- The Modern Corporation (Seminar) (336)
- Modern Real Estate Transactions (398)
- Moot Court (312)
- National Labor Relations Board Practice and Procedure (433)
- Occupational Safety and Health Legislation (415)
- Outside Placement (463)
- Performance of Government Contracts (488)
- Planning, Zoning, and Land Use Law (402)
- Product Liability (454)
- PTO Practice in Patent Matters (466)
- Regulated Industries (345)
- Remedies (380)
- Research and Writing Fellow (368)
- Sales and Sales Financing (370)
- Securities Regulation (326)
- Small Business Clinic (461)
- Special Problems of Tax Policy (Seminar) (428)
- Taxation—Federal Estate and Gift (422)
- Taxation—Federal Income (420)
- Taxation—Federal Income, Corporations and Shareholders (424)
- Taxation—Partnerships and Subchapter S (426)
- Toxic Tort Litigation (455)
- Trade Secret and Patent Law (464)
- Trial Advocacy (311)
- Trusts and Estates I (390)
- Unfair Trade Practices (450)

Advanced Courses and Seminars (Numbered 500–699)

- Air and Water Pollution Control (547)
- Chemical and Biotech Patent Practice (553)
- Comparative Environmental Law (551)
- Control of Toxic and Hazardous Substances (RCRA & CERCLA) (548)

- Copyright Law (559)
- Crime Lab, the Forensic Scientist, and the Criminal Lawyer (532)
- Electronics and Computers: Patent Practice (557)
- Energy Law (549)
- Enforcement of Patent Rights (556)
- Environmental Planning (544)
- Food and Drug Law (509)
- Foreign and Comparative Patent Law (558)
- Graduate Independent Legal Writing (598)
- Graduate Outside Placement (596)
- Health Care Delivery Systems (Seminar) (508)
- Income Taxation of Foreign Business and Investment (583)
- Intensive Clinical Placement (492)
- Interference Law and Practice (555)
- International Law of Human Rights (565)
- International and U.S. Regulation of Foreign Trade (505)
- Law of the European Communities (561)
- Law of Real Estate Financing (538)
- Legislative Drafting (591)
- Licensing of Intellectual Property Rights (552)
- Natural Resources Law (546)
- Negotiation: Concepts and Techniques (563)
- Nonprofit Organizations: Law and Taxation (578)
- Public Economic Policy and the Law (501)
- Regulation of Chemicals (FIFRA & TSCA) (545)
- Soviet Law (569)
- Survey of the Secondary Mortgage Market (539)
- Tax Practice and Procedure Seminar (588)
- Taxation—Natural Resources (580)
- Taxation—Real Estate and Income (579)
- Taxation—Special Corporation Problems (577)
- Taxation—Timing of Income and Deductions (573)
- Telecommunications Law (572)
- Thesis (599–600)
- Use and Control of Nuclear Energy (550)
- Water Resources Law (543)

Courses Not Offered 1990–1991

- Administration of Criminal Justice (Seminar) (307)
- Administrative Practices and Procedures (Food and Drug Administration) (510)
- Advanced Corporations and Securities Topics (Seminar) (337)
- Advanced Problems in International Business Transactions (506)
- Advanced Problems in Public International Law (504)
- Appellate Practice and Procedure (304)
- Arms Control and Strategic Stability (564)
- Banking Law II (333)
- Chinese Law (570)
- Civil Procedure (Seminar) (310)
- Civil Rights Legislation (359)
- Computers and the Law (468)
- Corporate Finance (329)
- Criminal Practice (Seminar) (534)
- Federal Income Taxation of Trusts, Estates, and Beneficiaries (585)
- Foreign and Comparative Patent Law (558)
- Income Taxation of Property Transactions (584)
- Individual Employment Rights (339)
- Individual Rights and Liberties (358)
- Intergovernmental Relations I (541)
- International Arbitration (448)
- International Civil Litigation (449)
- International Humanitarian Law of Coercion Control (568)
- International Law (Seminar) (448)
- International Law of the Sea (567)
- International Negotiations (571)
- International Organizations (447)
- Labor and Employment Law (Seminar) (341)
- Labor Relations in the Federal Service (430)

Law of Congress and the Presidency
(Seminar) (347)
Law and Economics (502)
Law of Japan (562)
Law of the Near East (574)
Law of Privacy (469)
Law and Psychiatry (Seminar)
(437)
The Legal Process (320)
Medicine for Lawyers (470)
Patent Law, Advanced Topics
(554)
Police and the Community (480)
Practical Economics for Lawyers
(500)
Public Law Seminar (344)

Regulation of Investment Advisers and
Investment Companies (507)
Regulation of Securities Markets and
Professionals (328)
Statistics and the Law (503)
Takeovers and Tender Offers (327)
Taxation—Deferred Compensation I
(586)
Taxation—Deferred Compensation II
(587)
Taxation—Principles of Charitable Tax
Planning (582)
Taxation—State and Local (581)
Trademark Law (560)
Trade Regulation (Seminar) (462)
Trusts and Estates II (391)

Course Descriptions

The courses of instruction are described below. The number of hours of credit given for the satisfactory completion of a course is indicated in parentheses after the name of the course. Thus, an academic-year course with two hours of credit each semester is marked (2-2) and a semester course with two hours of credit is marked (2).

In most courses, a final examination is held during the examination period and the grade in the course is determined in large part by that examination. These courses are marked "Examination."

Courses that require the preparation of a major research paper in lieu of an examination are marked "Research Paper." The satisfactory completion of such a paper by a student individually will satisfy the Legal Writing curriculum requirement for the J.D. degree.

Courses marked "Problem Assignments," "Writing Assignments," "Take-home Examination," "Choice of Paper or Examination," or "Clinical Work" indicate the nature of the method planned by the instructor for determining in major part the grade to be given for the course. Only research papers qualify for the Legal Writing curriculum requirement for the J.D. degree.

Day classes begin at 9:10 a.m. and run throughout the entire morning and afternoon. Evening classes begin at 5:50 p.m. Many examinations for both day and evening classes may be given in the afternoon only. Examinations for day students may be held in the evening.

A designation at the end of a course description indicates whether the course is scheduled to be offered in the spring or fall semester or in the summer sessions and also usually whether it will meet in the day or evening. When a double-numbered course is designated "Academic year," the first half of the course is scheduled to be offered in the fall, the second half in the spring.

Required Courses

203-4 Contracts I-II (3-3 day
(4-2 evening)

Nash, Cibinic, Pock, Gabaldon,
Stipanowich, Caplan, Wilmarth

Legal remedies of contracting parties, including damages in contract and quasi-contract, specific performance, reformation, rescission, remedies in tort; acts creating and terminating contractual rights, including offer and acceptance,

- mistake, problems of proof; function of consideration; conditions; assignments; third-party beneficiaries; effect of changed circumstances; protection of the client's interests upon breach or threat of breach by the other party. Emphasis on problems of analysis, draftsmanship, adversary method. (Examination) (Academic year—day and evening)
- 207 **Torts (4)** Seidelson, Banzhaf, T. Schwartz, Schechter, Turley, Sharpe, Painter
Liability for harm to person or property. Intentional torts, negligence, nuisance, products liability, misrepresentation, defamation, and invasion of privacy; fault and other basis for shifting losses; causation; damages; effects of liability insurance; problems under Federal Tort Claims Act. (Examination) (Fall—day and evening)
- 211 **Property (4)** Schiller, Chandler, J. Schwartz, Johnston, Turley
Basic concepts of personal property. Real property: historical background of the law of estates and conveyancing, types of estates, dower and curtesy, landlord and tenant relationship, concurrent estates, future interest at common law and after the Statute of Uses; introduction to modern conveyancing—the real estate contract, the deed, the recording system, methods of title assurance. (Examination) (Spring—day and evening)
- 213 **Constitutional Law I (Federal Systems) (3)** Barron, Park, Cheh, Dienes, Nolan, Lupu
Basic principles of American constitutional law, with a focus on governmental powers and the role of the Supreme Court in interpreting and enforcing constitutional norms. The nature and scope of judicial review. The case and controversy requirement and other limitations on constitutional adjudication. Powers of the president and Congress; the separation of powers doctrine. Relationship of the national government to state governments and principles of federalism. The state action doctrine. (Examination) (Spring—day; fall—evening)
- 214 **Constitutional Law II (3)** Barron, Park, Cheh, Dienes, Nolan
Individual rights and liberties in the American constitutional scheme and the different judicial methods of reconciling majoritarian governance with individual freedom. Privileges and immunities of national citizenship, due process of law, equal protection guarantees, freedom of expression and of religion, rights of privacy and association. (Examination) (Fall—day; spring—evening)
- 216 **Criminal Law (3)** Starrs, Robinson, Sirulnik, Caplan, Craver
An overview of the criminal justice system; dimensions of the problem of crime and goals of penal sanctions. An examination of what conduct should be made criminal and what sanctions should be applied. The theoretical anatomy of a criminal offense (elements of *mens rea* and *actus reus*), the general principles of criminal liability, and the various defenses. Special problems, such as conspiracy, inchoate crimes, causation, insanity, and complicity, are subjected to detailed analysis. (Examination) (Fall—day; spring—evening)
- 217 **Criminal Procedure (3)** Starrs, Robinson, Caplan, Cheh, Turley, Saltzburg
Comprehensive presentation of major issues in criminal process, with heavy reliance on Supreme Court cases interpreting the Constitution. The course proceeds through the criminal justice system, from first police contact, search interrogation, and other investigation, through the prosecution, preliminary proceedings, and trial. Problems of federalism, the exclusionary rule, and sentencing. (Examination) (Fall—evening; spring—day)
- 218-19 **Civil Procedure I-II (3-3)** Friedenthal, Raven-Hansen, Trangsrud, Peterson, Lynk, Goldman
The theory and practice of civil litigation. Analysis of the goals, values, costs, and tensions of an evolving adversarial system of adjudication. Examination of the rules and statutes that govern the process by which substantive rights and duties are enforced in our federal and state courts. Topics include the relationship of procedure to substantive law, the proper reach of judicial authority, pleading,

motions practice, joinder of parties and claims, class actions, pretrial discovery, trial by jury, remedies, post-trial procedure, appeals, claim and issue preclusion, and alternative dispute resolution. (Examination) (Academic year—day and evening)

220 Legal Research and Writing (2) Schultz and Staff

Introduction to use of a law library; research experience in primary, secondary, and specialized sources of law; practice in proper legal citation form. Instruction and practice in legal writing and analysis, with primary emphasis on legal memoranda. The grade *H* (Honors), *CR* (Credit), or *NC* (No Credit) is given for this course. For Honors, a student must do work of excellent quality. For Credit, a student must attain a minimum grade of 65. Failure to complete the work in this course will result in a grade of 45. (Fall—day and evening)

221 Moot Court (1) Schultz and Staff

Instruction and experience in the writing of an appellate court brief and in the argument of an appellate case. This course must be successfully completed in order to earn credit for Law 220. The grade *H* (Honors), *Cr* (Credit), or *NC* (No Credit) is given for this course. For Honors, a student must do work of excellent quality. For Credit, a student must attain a minimum grade of 65. Failure to complete the work in this course will result in a grade of 45. (Spring—day and evening)

222 Professional Responsibility and Ethics (2) Jenkins, Nolan, Johnston, Morgan, Peroni, Gabaldon

Required course; may be taken in the second, third, or fourth years. Ethical problems involved in civil and criminal counseling and litigation. Codes of Professional Responsibility and legal discipline; roles of bar associations and courts. (Examination) (Fall and spring—day and evening)

232 Evidence (4) Seidelson, Robinson, Saltzburg, Alvarez, D. Brown

Preparation and presentation of evidence, including proof of writings; qualification and examination of witnesses with emphasis on impeachment; privilege; opinion testimony; determination of relevancy; demonstrative, experimental, scientific evidence; application of the hearsay rule. (Examination) (Spring—day and evening; fall—day)

Elective Courses

300 Federal Jurisdiction (3) Barron, Raven-Hansen, Trangsrud, Peterson

Analysis of the relationship of the federal courts to Congress and to the states. Topics may include judicial review; standing and justiciability; congressional power to regulate jurisdiction; legislative courts; federal question, diversity, removal, civil rights, and habeas corpus jurisdiction; state sovereign immunity; Supreme Court appellate jurisdiction; abstention; federalism doctrines; and federal common law. (Examination) (Fall—day and evening; spring—day)

302 Federal Trial Practice (2) Jackson

Presentation of cases focusing on the critical procedural stages of litigation in federal court. Pretrial motions and discovery, including depositions of lay and expert witnesses, witness examination, introduction of evidence, courtroom techniques, and oral argument, are covered using pleadings from actual cases tried in federal court. Prerequisite: Law 218; prerequisite or concurrent registration: Law 232. The grade *CR* (Credit) or *NC* (No Credit) is given for this course. (Fall and spring—evening)

303 Mediation (2) Lewis, Singer

Consideration of the growing use of mediation to resolve disputes. Taking the roles of mediators and disputants, students participate in a number of simulated disputes, both in and outside class. Practical and ethical questions on the process of mediation and its applications. Comparison with other forms of dispute resolution; applicability to various other areas of the law, including family, corporate, criminal, environmental, and civil rights. The class meeting time is lengthened occasionally to allow for extended simulations. Students are ex-

- pected to mediate outside of class, to turn in short journal entries describing their experiences as mediators or disputants, and to write a 10–15-page paper exploring a particular application of mediation or discussing legal or ethical questions involving mediation. Enrollment is limited to 24. (Fall—day)
- 304 Appellate Practice and Procedure (2)**
Study through text and an examination of the appellate process. The course is centered around the discussion of a series of fundamental concepts. (Research paper)
- 307 Seminar: Administration of Criminal Justice (2)** Robinson
Group study of current problems in criminal law and its administration, including recent developments in preventive detention, standards of effectiveness of defense counsel representation, capital punishment, the permissibility, propriety, and efficacy of legal efforts to control life-style choices such as nonmarital sexuality, and related topics of interest to members of the seminar. Students will be expected to prepare one analytic paper and two critiques of papers of others. Enrollment limited. (Research paper)
- 308 Complex Litigation (3)** Trangsrud
Analysis and critique of complex civil litigation in the state and federal courts. Examination of complex joinder, the management of factually related claims in multiple venues, modern class-action practice, and current developments in the law of claim and issue preclusion. Other topics covered in some years include judicial supervision of plaintiff and defendant class actions; discovery and judicial control of large cases; the role of juries, magistrates, and masters in complex cases; and problems attending complex remedies such as the use of structural injunctions to reform public schools, hospitals, and prisons. (Examination) (Spring—day)
- 310 Seminar: Civil Procedure (2)**
Study of specific problems in civil procedure. Topics will vary. The topic will be announced each year prior to registration. (Research paper)
- 311 Trial Advocacy (3)** Saltzburg, Malone, L. Schwartz, Levie
Pretrial and trial techniques with emphasis on procedural, evidentiary, tactical, and ethical problems experienced by trial lawyers in actual cases. Complaint drafting, pretrial motions, depositions and other discovery methods, preparation of witnesses, jury selection, the use of experts, direct and cross-examination, introduction of documents, courtroom techniques, and opening and closing arguments. Role playing in simulated courtroom situations. Once registered, no student may drop this course without the express permission of the dean. Prerequisite: Law 232. (Short papers and exercises) (Fall—day and evening; spring—evening)
- 312 Moot Court (1, 2, or 3)**
Satisfactory participation in the preliminary rounds of the Van Vleck Moot Court competition results in 1 hour of credit; satisfactory participation in at least one additional elimination round results in 2 hours of credit. Satisfactory participation in the Jessup Cup or Giles S. Rich competition results in 1 hour of credit; finalists receive 2 hours of credit. Satisfactory participation in a trial-level, in-house competition results in 1 hour of credit. Participants in interscholastic appellate or trial-level competitions receive 2 hours of credit; however, participants in the Van Vleck Moot Court competition who received 2 hours of credit, or finalists in the Jessup Cup or Giles S. Rich competition, receive only 1 hour of credit for participation in an interscholastic competition. In no event may a student receive more than 3 hours of credit for in-house and interscholastic moot court competitions. The grade *CR* (Credit) or *NC* (No Credit) is given for this course. (Fall and spring)
- 314 Independent Legal Writing (1 or 2)** Staff
Preparation of a research paper under the supervision of a full-time member of the faculty who will determine, prior to registration, whether the work required for the topic selected justifies 1 or 2 semester hours of credit. If elected for

1 hour of credit, this course may be repeated to meet the legal writing requirement for the degree. Approval of the faculty member is required prior to registration. See recommended guidelines under Regulations, Research Papers. (Research Paper) (Fall and spring—as arranged)

- 318 **Seminar: American Legal History (2)** Wilmarth
Philosophical and historical roots of the American Constitution, with consideration of the writings of Locke, Hobbes, and Montesquieu; the natural law and social contract theories; and the application of these concepts in the debates surrounding the drafting and ratification of the Constitution. The degree to which these concepts have been reflected in decisions of the Supreme Court, with primary focus on the Marshall Court but consideration also of more recent decisions. (Choice of Take-home Examination or Research Paper)
- 320 **The Legal Process (3)**
American legal institutions and their interrelationships and processes. Jurisprudential concepts in the context of specific problems commonly faced by private and governmental lawyers, legislators, courts, and administrative agencies. Issues of statutory interpretation, the roles of courts in making new law, and the allocation of functions between courts, administrative agencies, legislatures, and private decision makers. (Examination)
- 322 **Agency and Partnerships (2)** Sharpe, Schiller
Employment relations, vicarious liability of employers for employees' torts, scope of employment, and independent contractors; agents' authority and apparent authority to contract for their principals; ratification; nonprofit associations; the formation, operation, and termination of partnerships; limited partnerships. (Examination) (Fall—day and evening)
- 324 **Law and Accounting (2)** Taubman
Study of fundamental accounting principles with emphasis on corporation accounting; legal and accounting implications of specific items in financial statements of corporations; inventory adjustments; corporate transactions, distributions, capital adjustments. Strongly recommended for students who have had no accounting. (Examination and Problem Assignments) (Fall—evening)
- 325 **Corporations (4)** Green, Solomon, Wilmarth, Painter, Gabaldon, Galston, Block
Corporate law, with emphasis on operations and financing of corporations. Control of corporations, action by corporate directors, officers, shareholders. Control devices. Directors' and shareholders' duties of care and loyalty, insiders' transactions in shares of the corporation. Derivative suits, kinds of shares, dividends, corporate distributions. (Examination) (Fall—day and evening; spring—day)
- 326 **Securities Regulation (3)** Green, Painter, Gabaldon
The basic course in the study of federal and state laws governing the offering, distribution, and trading of securities. Focus on federal laws and regulations, in particular the Securities Act of 1933, the Securities Exchange Act of 1934, and the enforcement of these laws by the SEC and private parties. Prerequisite: Law 325. (Examination) (Spring—day and evening)
- 327 **Takeovers and Tender Offers (2)**
Federal and state regulation of corporate takeover bids and tender offers, including theories of corporate acquisitions, the Williams Act, and regulation of takeover tactics and defenses. Prerequisite: Law 325 and 326. (Research Paper)
- 328 **Regulation of Securities Markets and Professionals (2)** Painter
Federal regulation of securities markets and professionals, including regulation of exchanges, broker-dealers and investment advisers, internationalization of markets, and SEC administrative proceedings against broker-dealers and others. Prerequisite: Law 325. (Take-home Examination)
- 329 **Corporate Finance (2 or 3)**
General introduction to finance theory; problems in the issuance and reacquisition of corporate securities; analysis of various types of securities; problems involved in the use of debt and payment of corporate dividends; and financial

analysis of mergers, acquisitions, recapitalizations, dissolutions, and liquidations.
Prerequisite: Law 325. (Examination)

332 Banking Law I (3)

Wilmarth

Federal regulation of the financial services industry, especially commercial banks. Includes an analysis of the Federal Deposit Insurance Corporation as insurer of deposits, receiver, and liquidator of troubled banks; the role of the Comptroller of the Currency as the primary federal regulator of national banks, including the chartering function, bank examinations, analysis of classified loans, capital adequacy, and enforcement of substantive federal legislation; operation of the Federal Reserve System under the Bank Holding Company Act and the various substantive regulations such as Reg. B (equal credit opportunity), Reg. J (check collection), Reg. M (consumer leasing), Reg. Q (deposit rate regulation), Reg. O (insider loan limits), Reg. E (electronic funds transfer), and Reg. Z (truth in lending); geographic deregulation and the trend toward interstate banking; and an analysis of financial services product deregulation and unification of the industry along functional lines. (Examination) (Fall—day)

333 Banking Law II (2)

Clark

Bank holding companies; activities closely related to banking under FRB Regulation Y; outer limits of the business of banking; banks, bank holding companies, and the securities laws; savings and loan holding companies; Change in Bank Control Act; the FDIC and the troubled bank; bank liquidation and purchase and assumption arrangements; federal deposit insurance; the FDIC as receiver of a failed bank; international banking, including foreign banks in the United States, U.S. banks abroad, and foreign bank regulation of American banks abroad. (Examination)

334 Business Planning (2)

Green, Flyer, Press, Cooney,
Block, Cirulnick, Painter

Integrated study of corporate, financial, tax, accounting, and SEC aspects of the following: organization of a small corporation; organization of a public corporation; stock dividends, recapitalization, and stock purchases in the context of conflict between active stockholders of a closed corporation and the family of a deceased active stockholder; corporate liquidations; corporate mergers and acquisitions; and divisions of corporations. Prerequisite: Law 325 and 420. Berkeley, Press—prerequisite: Law 424; Flyer, Cirulnick—prerequisite or concurrent registration: Law 424. Enrollment may be limited by the professor. Berkeley, Green, Press, Flyer, Cirulnick, Painter—(Problem Assignments); Block, Cohen, Kirby—(Examination) (Fall—day and evening; spring—evening)

336 Seminar: The Modern Corporation (2)

Solomon

Analysis of the nature and role of the business corporation in the American and transnational political economy; evolution of the corporation and the political economy; impact of technological change on the corporation and the political economy; reasons for and consequences of the growth of large corporate enterprises; role of entrepreneurs in the political economy; relationship of corporations to the government and other centers of power. (Research Paper) (Fall—day)

337 Seminar in Advanced Corporations and Securities Topics (2)

Current issues in corporate and securities law practice and theory. Prerequisite: Law 325. (Research Paper)

338 Labor Law (3)

Craver, C. Sharpe

Law governing labor-management relations, organizations and representation of employees, regulation of economic weapons, enforcement of collective bargaining agreements, interunion and intra-union relations. (Examination) (Fall—evening; spring—day)

339 Individual Employment Rights (2 or 3)

Individual rights and obligations in employment; exploration of common law and statutory regulation of the individual employment relationship from its inception to its termination; emphasis on current developments such as wrongful discharge, medical screening, drug testing, employer-provided health insurance

- and child care, occupational safety and health, workers' compensation, and retirement issues. (Examination)
- 340 **Collective Bargaining and Labor Arbitration** (2 or 3) C. Sharpe
Negotiation, content, and administration of collective bargaining agreement through the grievance procedure and arbitration; problems in negotiation and administration of collective labor agreements. Prerequisite: Law 338 or permission of instructor. (Negotiation and arbitration exercises) (Spring—day)
- 341 **Labor and Employment Law Seminar** (2)
Group study of contemporary problems relating to labor and employment law. Enrollment limited. (Research Paper)
- 342 **Administrative Law** (3) Park, Banzhaf, Raven-Hansen, J. Schwartz, Lupu
Study of the administrative process in executive and independent regulatory agencies; emphasis on judicial review. Formal and informal decision-making, investigation, planning, and public administration functions of the agencies as related to their legal limits and to the roles of lawyers in government and private practice. Relationships of agencies to the executive and legislative branches, to public and private interest groups, and to the social, political, and economic aspects of various philosophies of government regulation. This course is a prerequisite to several advanced public law courses. (Examination) (Fall—day; spring—day and evening)
- 344 **Public Law Seminar** (2) Raven-Hansen
Group study of specific problems of public law; selection will vary with the professor and from year to year. See special posting for the current semester. Prerequisite: Law 342 and 362.
- 345 **Regulated Industries** (2) Morgan
Substantive problems of business regulation in terms of natural monopolies, licensed industries, subsidized industries, and safety regulation. Typical problems raised include the role of intervenors, the impact of regulation upon management and market behavior, the uses and abuses of economic evidence, the role of agencies' staffs, interagency planning and regulation, and the effects of judicial and legislative review. Each student selects one industry and develops an insight into economic regulation in terms of that industry's firms, market structure, growth and development, trade associations, and regulatory agencies. (Research Paper) (Fall—day)
- 347 **Seminar: Law of Congress and the Presidency** (2) Dienes, Raven-Hansen
A seminar study of the law governing the powers and relations of Congress and the presidency and attendant separation of powers questions, including executive confidentiality and the congressional need for information, the president's legislative role, presidential accountability, executive law enforcement, supervision within the executive branch, executive appointments and removals, the president's supervision of foreign policy, and the constitutional allocation of war powers. Intensive preparation is required, and students are expected to prepare and present one analytic paper and two critiques of papers by others. Enrollment limited. (Research Paper)
- 350 **Seminar: Constitutional Law** (2) Peterson, Lupu, Dienes
Group study of contemporary problems in constitutional law; process of constitutional litigation; problems of effectuating constitutional guarantees. Limited enrollment. (Research Paper or Examination) (Fall—day; spring—day)
- 352 **Mass Communications Law** (2) Barron, Dienes
Institutional structure of mass media and their interrelationships; psychological aspects of mass communications; continuing adjustments among public interest goals, the economic system, and technological developments; influence of and controls exercised by government, other institutions, and private groups; conflict between freedom of speech of the media and other major community interests; the media's relationships to the interests of dissident and minority groups and the access of these groups to the media. Barron—(Examination or Research Paper); Dienes—(Examination) (Fall—evening; spring—day)

- 358 Individual Rights and Liberties (3)** Dienes, Park
Principles of equality and due process in the Fifth and Fourteenth Amendments. The power of Congress to enforce the Fourteenth Amendment. Focus on individual rights and liberties under the U.S. Constitution. First Amendment rights, particularly religion and speech clauses. The right of association. Other personal rights in the Bill of Rights. Methodology of judges in deciding cases involving individual rights and liberties, particularly the "balancing test" and the judges' views of societal interests. Prerequisite: Law 212. Park (Examination); Dienes (Research Paper or Examination)
- 359 Civil Rights Legislation (3)** Dienes
Examination of federal legislation protecting individual rights and liberties as well as the administrative and judicial implementation of that legislation. Remedial provisions for the enforcement of federal constitutional and statutory rights (e.g., 42 U.S.C. §§1983, 1985) and federal statutes prohibiting discrimination in housing, contractual relations, voting, education, and federally funded programs. (Examination)
- 360 Immigration Law (2)** Grussendorf
Law and practice under the McCarran-Walter Act, involving questions of immigration, emigration, expatriation, nationality, and naturalization. Consular, Immigration and Naturalization Service, and Labor Department practice. (Examination) (Fall—evening)
- 362 Legislation (2)** Clark, Raven-Hansen, J. Schwartz
Legislative process and the construction and legal effect of statutes. Topics that may be considered include representational structures, lobbying, judicial review, direct democracy, legislative fact-finding and drafting, and the preparation and significance of legislative history. This course is a prerequisite to several advanced public law courses. (Examination) (Spring—day)
- 364 Law Review (1 or 2 per semester)** Staff
Limited to members of the student staff of the *Law Review*. A maximum of 4 semester hours of credit may be earned in this course. The grade *CR* (Credit) or *NC* (No Credit) is given for this course. (Fall and spring—day and evening)
- 366 Journal of International Law and Economics (1 or 2 per semester)** Staff
Limited to members of the student staff of the *Journal of International Law and Economics*. A maximum of 4 semester hours of credit may be earned in this course. The grade *CR* (Credit) or *NC* (No Credit) is given for this course. (Fall and spring—as arranged)
- 368 Research and Writing Fellow (1 or 2)** Schulz
Limited to students selected as Dean's Fellows to assist in teaching first-year Legal Research and Writing (Law 220) and Moot Court (Law 221). Two semester hours may be earned in the fall and one semester hour in the spring. The grade of *CR* (Credit) or *NC* (No Credit) is given for this course. (Fall and spring—day and evening)
- 370 Sales and Sales Financing (2)** Zubrow, Clark, Spanogle
Provisions of the Uniform Commercial Code relating to sale and distribution of goods, including bulk transfers, warehouse receipts, bills of lading, and other documents of title; particular attention to secured transactions and financing devices utilized in this connection. (Examination) (Fall—day and evening)
- 371 International Sales (2)** Spanogle
The study of international transactions for the purchase, sale, payment for, and financing of goods, as governed by the U.N. Convention on Contracts for the International Sale of Goods and other multilateral treaties on international lease financing, factoring, commercial paper, and fund transfers. The substantive provisions of these treaties, the process by which they are developed, and the various interpretive approaches available under different legal regimes will be considered. Prerequisite: Law 466 or permission of the instructor. (Examination or Research Paper) (Spring—day)

- 372 **Commercial Paper, Check Collection, and Banking (2)** Zubrow, Clark Spanogle
Classic view of negotiable instruments as codified by Article III of the Uniform Commercial Code. Check collection: the system in theory as expressed in Article IV of the Uniform Commercial Code and the system in practice; Federal Reserve regulations, Clearing House agreements, and automation systems. The dual banking system, work of the Comptroller General and the Federal Reserve Board. Legal problems concerning interest and the checkless society. (Examination) (Fall—day; spring—evening)
- 374 **Equity (2)** Pock
Evolution of equity jurisprudence and its administration of a remedial scheme separate and distinct from that administered by common law jurisprudence. Constitutional and systemic limitations upon equity. Effect of merger of common law and equity courts on the federal and state level. Temporary and permanent injunctive relief; specific performance, cancellation, restitution, reformation, constructive trusts, equitable liens, marshaling, equitable writs, and equitable defenses, such as *laches*, *estoppel in pais*, and "unclean hands." Relative efficacy and availability of equitable and legal remedies. (Examination) (Summer)
- 378 **Creditors' and Debtors' Rights (3)** Zubrow
Creditors' remedies and debtors' protections under state law: writs of attachment, garnishment and execution, acquisition of liens and forced sales of property, self-help arrangements, and security agreements. Bankruptcy under federal law: who may file, the creation and administration of the bankruptcy estate, powers of the trustee, discharge of debt; rehabilitation plans for individuals under Chapter 13. (Examination) (Spring—day and evening)
- 380 **Remedies (3)** Sharpe
Development and use of judicial remedies that give relief for past or threatened injuries to interests of personality and property. Remedial approaches include compensatory and punitive damages, injunctions, unjust enrichment, constructive trusts, equitable liens, tracing, subrogation, and specific reparation. Emphasis on comparing remedial options in fraud, mistake, duress, breach of contract, and abuse of fiduciary relationships. (Examination) (Spring—day)
- 382 **Insurance (2)** Schiller, Pock
A primary risk-distributing medium and the rules by which legislative, administrative, and judicial bodies seek to promote its benefits and avert its dangers. Insurance marketing, insurable interest, subrogation, transfer of insurance benefits to nonpolicyholders, coverage and other insurance policy provisions, disposition of claims. (Examination) (Fall—day)
- 386 **Admiralty (3)** Sharpe
United States law of transportation by water (vessels, cargoes, services, and persons). Substantive maritime law; procedures of resolving maritime disputes by litigation, arbitration, and administration. Legal aspects of processes such as planning shipping transactions; anticipating disputes through contract, statute, and treaty; creating and amending national and international shipping law; adjusting conflicts between courts and advancing toward a uniform maritime law. (Examination) (Spring—day)
- 390-91 **Trusts and Estates I-II (3-3)** Chandler, Solomon, Johnston, Sims
Noncommercial transfers of wealth at death or during life. Law 390: essential elements and formalities for creation of trusts and execution of wills, revocation and alteration, grounds for contest, limits on property owner's power to control, intestate succession. Law 391: dispositive provisions, common questions of construction, future interests problems, administration of estates and trusts, charitable trusts. Prerequisite to Law 390: Law 211; to Law 391: Law 390. (Examination and Problem Assignments) (Law 390: fall—day; spring—day and evening)
- 394 **Community Property/Marital Property (2)** Ridder
Legal rules and planning considerations with respect to property owned and acquired by married persons. Primary emphasis will be on the law of the eight community property states, but special attention will also be given to the parallel

problems seen under the now widely enacted statutes creating judicial power to decree an equitable distribution of a divorcing couple's marital property. As time permits, federal tax rules and considerations will also be discussed. (Research Paper or Examination) (Fall—day)

395 Seminar: Estate Planning (2 or 3) Solomon, Blake

Study of the effective disposition of wealth by inter vivos gift and testamentary transfer; emphasis on income, estate, and gift tax considerations; use of the trust form in the transfer of wealth; use of insurance and jointly held property as part of the estate plan; planning for the continuation or disposition of the client's business interests. Preparation of an estate plan with supporting documents is the major project for the course. Prerequisite: Law 390, 391, 420, and 422. Enrollment limited by the instructors. Solomon—(Problem Assignments); Blake—(Examination) (Fall—evening)

398 Modern Real Estate Transactions (3)

Brown, Schiller

Basic course in conveyancing. Current problems in purchase and sale of residential real estate; legal and equitable rights, responsibilities, liabilities, and remedies of buyer, seller, broker, escrow agent, conveyancing attorney, surveyor, title examiner, abstractor, and lender; interim and permanent mortgage finance, discounts, points, "subject-to" and "assumptions," remedies on default, including foreclosure processes; process of examination and assurance of title and other interests in realty, including recording, registration, and title insurance systems; settlements and closings, warranties of title, habitability and structural integrity; risk-of-loss problems, property/casualty insurance; use restrictions, encumbrances on title, and clearing of title; problems related to encroachments, easements, adverse possession, and compliance with subdivision, zoning, building, and housing code regulations; emerging problems related to cooperatives, condominiums, and property owners associations. (Examination) (Spring—day)

402 Planning, Zoning, and Land Use Law (2)

Feola, Gordon

Problems, solutions, emerging concepts, and constitutionality of land use regulations, including zoning, subdivisions, historic preservation, exactions, vested rights, transfer of development rights, growth management, and urban and regional planning. This course provides the foundation for Law 403, 404, and 408. (Writing Assignments and Examination) (Fall—evening)

403 Seminar: Current Problems in Land Use Management and Control (2)

Brown, Schiller

The constitutional "taking" issue: assessment of emerging mechanisms, processes, and institutional innovations for exercising public and private management and control of land use; consideration of regional regulatory standards for land use as a desirable or necessary alternative to local controls and of the prospect that such process will satisfy the *Nollan* "nexus" requirement; critical analysis of TDRs, linkage and other off-site exactions, impact fees, proffers, etc.; problems of affordable housing and available responses. Students may participate in microsimulation activities. (Research Paper) (Spring—day)

404 Land Use Administrative Process (2)

Delaney, Kominers

Selected problems in urban development and housing, with particular emphasis on programs under current enabling legislation and federal and state court decisions. Analysis of various public and private decision processes through which conflicts over land use are resolved. Simulation of a complex zoning hearing. Prerequisite: Law 402 or permission of instructor. (Writing Assignments) (Spring—evening)

408 Land Development Law (4)

Brown

(Simulation course)
Students participate in a semester-long simulation process encompassing 42 months of "game time." As junior associates in various hypothetical law firms or offices, students represent their assigned clients, with all interactions based on actual situations and often incorporating recent or ongoing cases of major significance. All levels of judicial, administrative, and legislative activity are involved. Enrollment limited by instructor. (Writing Assignments) (Fall—day)

- 409 **Local Government Law (2)** Brown
Decision-making processes in metropolitan and other municipal-level governments; types and objectives of city, county, and special-function local government units; intra- and intergovernmental relations; initial organization and changes in form and function of local governments; personnel matters; local legislative and administrative authority and processes; financial processes; governmental vs. proprietary functions; responsibility in tort; insurance issues; introduction to community planning; extraterritorial powers; joint-power agreements and compacts. (Examination or Research Paper) (Fall—day)
- 410 **Environmental Law (3)** Reitze
An introductory course focusing primarily on the statutes administered by the Environmental Protection Agency. Topics covered include NEPA, the Clean Water Act, the Safe Drinking Water Act, the Solid Waste Disposal Act/RCRA, and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). Students cannot receive credit for both Law 410 and Law 547. (Examination) (Fall—day)
- 411 **Air Pollution Control (3)** Reitze
An in-depth analysis of the Clean Air Act, focusing on legal problems common to environmental law. Topics covered include standard setting, technology-based controls, development of pollution control plans, monitoring, inspection, enforcement, economic controls, energy trade-offs. (Examination) (Spring—day)
- 414 **Clinical Studies in Environmental Law (2, 3, or 4)** Reitze
The student works on a project in the environmental law field under the supervision of both the faculty director of the program and a lawyer practicing environmental law. The project may involve working with a government agency, a congressional committee, a private practitioner, or a nonprofit public-interest environmental organization. Admission to the course requires second-semester second-year, third-year, or graduate standing and permission of the Director of the Environmental Law Program. Students who have mastered the fundamentals of environmental law are selected for this course. Normally this will require completion of at least Law 410. Students may repeat the course for a maximum of 8 semester hours of credit. The grade *CR* (Credit) or *NC* (No Credit) is given for this course. Five hours of work per week are required for each credit. (Fall and spring—day)
- 415 **Occupational Safety and Health Legislation (2)** Michaelson
The Occupational Safety and Health Act of 1970 and related legislation. (Short papers) (Fall—evening)
- 420 **Taxation—Federal Income (3)** Solomon, Sims, Block, Peroni
Survey of substantive provisions of federal income tax law, including concept of gross income, provisions affecting taxation of family and individual transactions, limitations on allowable deductions, sales and dispositions of property, problems of capital gains taxation, nontaxable exchanges. (Examination) (Fall—day and evening; spring—day)
- 422 **Taxation—Federal Estate and Gift (2)** Solomon
Survey of substantive provisions of federal estate and gift tax laws, including inter vivos transfers, transfers in contemplation of death, joint interests, life insurance proceeds, property subject to powers of appointment, marital deduction, and split gifts. (Examination) (Spring—evening)
- 424 **Taxation—Federal Income, Corporations and Shareholders (3)** Solomon, Sims, Block, Painter
Continuation of Law 420. Primary emphasis on corporate—shareholder relationships. Problems of corporate dividends, redemptions of stock, distributions in partial and complete liquidation, stock dividends, bail-outs, and dividends in kind. Federal income tax problems involved in the formation of corporations, the sale of corporate businesses (including collapsible corporations), mergers and acquisitions, and corporate divisions. Prerequisite: Law 420. (Examination) (Fall—day; spring—day and evening)

- 426 Taxation—Partnerships and Subchapter S (2)** Sanders, Block
Income tax problems of partnerships and tax-option corporations (Subchapters K and S of the Internal Revenue Code of 1954). Practice-oriented study of partnerships, including syndication, organization, and structure of entity, with emphasis on policy examination of areas of IRS principal concern, including tax shelters, disproportionate tax allocations, retroactive allocations, guaranteed payments to partners, contributions of capital, basis for gain or loss, passive activity loss, non-recourse financing, "at-risk" rules, current and liquidating distributions, sale of partnership interests, collapsible partnerships, "like-kind" exchanges, termination, special basis adjustments, and distributions to retiring or deceased partners. Planning-oriented analysis of Subchapter S, including procedures for electing and terminating Subchapter S status, treatment of income and losses, limitations on deductibility of losses, and how to avoid pitfalls. (Examination) (Spring—evening)
- 428 Seminar: Special Problems of Tax Policy (2)** Sims, Block, Galston
Intensive study of selected aspects of the tax structure with primary attention given to the federal income tax. Problem areas are reviewed primarily from the standpoint of tax policy, including legal, economic, social, and practical considerations. Alternative solutions, including current legislative proposals, are examined. Prerequisite: Law 420, 424. (Research Paper) (Spring—day and evening)
- 429 Labor Standards (2)** Ginsburg, Abrahams
(Formerly Law 520)
Analysis of the Fair Labor Standards Act—its scope, exemptions, and remedial procedures; the laws establishing labor standards for government contracts, including the Davis-Bacon Act, Walsh-Healey Act, Service Contract Act, and Work Hours Act; the role of the Department of Labor, the Comptroller General, and the contracting agencies in interpretation, administration, and enforcement of these statutes. (Examination) (Spring—evening)
- 430 Labor Relations in the Federal Service (2)** Tobias
(Formerly Law 521)
Study of the Civil Service Reform Act, with emphasis on the structure and case law developed by the Federal Labor Relations Authority, Federal Service Impasses Panel, and Merit Systems Protection Board. Parallels are drawn between federal sector, nonfederal public sector, and private sector decisions. (Research Paper)
- 431 Employment Discrimination Law (2)** Craver, Morris
(Formerly Law 524)
Federal laws and executive orders relating to various types of discrimination in employment, including Title VII of the Civil Rights Act of 1964, the Equal Pay Act, the Age Discrimination in Employment Act, the Rehabilitation Act, the Civil Rights Act of 1866, the Fourteenth Amendment, the National Labor Relations Act, and Executive Orders 11,246 and 11,375 relating to government contractors; substantive rights, exemptions, and burdens of proof under the various laws and regulations. (Examination) (Fall—evening)
- 432 Employment Discrimination Claims and Litigation (2)** Morris
(Formerly Law 527)
Processing of claims involving employment discrimination before the Equal Employment Opportunity Commission and in federal court; problems encountered by attorneys for both plaintiffs and defendants; practice in drafting pleadings that attorneys prepare in connection with employment discrimination litigation. Prerequisite: Law 431 or permission of instructor. (Problem assignments) (Spring—evening)
- 433 National Labor Relations Board Practice and Procedure (2)**
Comprehensive examination of NLRB practice and procedure from filing of unfair labor practice charges through decisional process, including special emphasis on jurisdictional, remedial, and injunctive issues. Discussion of representation case procedures, Freedom of Information Act, and Equal Access to Justice Act. Prerequisite: Law 338. (Research Paper)

- 434 **Domestic Relations (2)** Lupu, Valdez
Focus on the role of the family in society and related legal issues. Formal marriage and its alternatives, such as contract living arrangements, are examined. Emphasis on divorce and its effects on the members of the family, including economic consequences and the consequences for children. The legal aspects of parenthood are also discussed, including responsibilities of parenthood, legitimacy and illegitimacy, new reproductive techniques, and adoption. Lupu—(Examination); Valdez—(Examination and Optional Project) (Spring—day and evening)
- 436 **The Child, the Family, and the State (2)** Ridder
Focus on the rights of children, particularly in the family and criminal law areas. Among the subjects covered are child custody, support, medical treatment, neglect, status offenders, and delinquency. (Choice of Examination or Research Paper) (Spring—day)
- 437 **Seminar: Law and Psychiatry (2)**
Designed to expose the lawyer to basic constructs of psychiatry and psychology and to explore their implications in legal rules and practice. Psychiatrists and psychologists actively involved in teaching process. Topics include psychological testing and other assessment techniques, psychiatric evaluations and reports, child custody and other family law issues, privilege and confidentiality, competency in civil and criminal contexts, criminal law matters (including criminal responsibility and dispositional issues), civil commitment, right to treatment, right to refuse treatment, experimental procedures, and informed consent. Problems of counseling, legal ethics, preparation for trial, direct and cross-examination, and other aspects of practice considered. There is ordinarily at least one session in a mental institution. (Choice of Research Paper or Examination)
- 438 **Comparative Law (3)** Brand
Comparison of the world's major legal systems: civil, common, Islamic, and socialist. Consideration of the history and sources of law of each and a review, concentrating on the civil law system, of hallmark institutions, the role of lawyers, procedure, and selected substantive legal issues. Emphasis on issues and problems of the international lawyer, including conflicts among and harmonization of the legal systems, the migration of legal ideas, and pleading and proving foreign law. (Examination) (Spring—day)
- 440 **Conflict of Laws (3)** Seidelson, Pock, Steinhardt
Legal problems arising from occurrences transcending state or national boundaries; jurisdiction; foreign judgments; constitutional influences; theoretical bases of choice of law principles and their application to specific fields, including torts, contracts, property, family law, administration of estates, business associations. (Examination) (Fall—evening; spring—day)
- 442 **Jurisprudence (2)** Park, Chandler, Steinhardt, Galston
Basic jurisprudential concepts; nature of law; development of legal institutions; jurisprudential schools—natural law, analytical, historical, sociological, functional; law and logic; law and justice; the judicial process; legislative, executive, administrative decision-making; impact of politics, economics, and scientific advance on legal systems; contemporary trends in jurisprudential thought. Park, Steinhardt—(Examination); Chandler—(Research Paper) (Fall—day and evening; spring—day)
- 443 **Foreign Relations, National Security, and the Constitution (2)** Raven-Hansen
Examination of constitutional and other public law problems in the development and conduct of U.S. foreign relations and preservation of U.S. national security. Topics include the allocation of foreign relations and national security powers among the branches, the treaty power, the relationship of international law to domestic law, war powers, national security and individual rights, and related topics. (Examination) (Spring—day)

444 International Law (3)

Steinhardt, Buergenthal, Alvarez

An introduction to international law that provides the background for specialized seminars. Emphasis on national states as participants in decision-making processes, with consideration of public bodies and other participants; analysis of range of available sanctions; roles and effects of international agreements under the U.S. Constitution; introductory study of humanitarian law; introductory study of the World Bank. Complements but does not repeat material in Law 447. (Examination) (Fall—day and evening; spring—day)

446 International Business Transactions (3)

Steinhardt, Spanogle

U.S. law and practice relating to characteristic forms of international transactions, including the transnational sale of goods (the law governing the documentary sale, various forms of letters of credit, commercial terms and insurance); the export of technology through franchising, distributorship, and licensing contracts; and the export of capital through the establishment, operation, and withdrawal of foreign direct investment. The impact of relevant international organizations and/or emerging substantive international commercial law (e.g., the United Nations Convention on Contracts for the International Sale of Goods and other treaties on international negotiable instruments, international lease financing, and international factoring). Specialized problems in the negotiation and drafting of international contracts. (Examination) (Fall—day; spring—evening)

447 International Organizations (2)

Alvarez

Analysis of characteristic legal issues arising out of the creation and operation of organizations of nation states. Included are issues of legal personality, treaty making and norm creation, privileges and immunities, membership, dispute settlement, and withdrawal. Exemplary problems in distinct institutional settings, including the United Nations, the International Labour Organization, the International Civil Aviation Organization, the Organization of Economic Cooperation and Development, the International Monetary Fund, and inter-American organizations. Prerequisite or concurrent registration: Law 444; for post-J.D. students, permission of instructor may be substituted. (Examination or Research Paper)

448 International Arbitration (2)

Survey of arbitration and related mechanisms of dispute resolution in the international legal system that arise out of commercial, financial, and governmental transactions. Analysis of the arbitration agreement, the process of arbitration, and the enforcement of arbitral awards as well as the common principles governing the disposition of claims. Review of the various arbitral tribunals and their rules. Prerequisite or concurrent registration: Law 444 or 446; for post-J.D. students, permission of instructor may be substituted. (Research Paper or Examination)

449 International Civil Litigation (2)

Analysis of the law relevant to the trial of cases having international elements in U.S. domestic courts, including the problems of establishing jurisdiction over foreign defendants, obtaining transnational discovery and service of process, enforcing foreign judgments, drafting and defending choice of forum and choice of law clauses, determining the extraterritorial reach of U.S. law, proving foreign law, and assessing the role of U.S. courts in deciding cases with potential consequences for U.S. foreign relations. Analysis of the impact of international issues on actual litigation as well as the initial structuring of a transaction in light of the client's potential litigation interests. Prerequisite or concurrent registration: Law 444; for post-J.D. students, permission of instructor may be substituted. (Examination or Research Paper)

450 Unfair Trade Practices (3)

Banzhaf, Schechter, Goldman

Unfair trade practices at common law and under modern legislation; privilege to enter markets and compete; interference with contractual relationships; trademarks and trade names; imitation of product appearance; misappropriation of ideas and trade secrets; right of publicity; basic copyright principles; protection of competitors and consumers against false advertising and unfair or deceptive practices under the Federal Trade Commission Act, the Trademark Act, and state unfair trade and consumer protection statutes; price and service discrimination

under the Robinson-Patman Act and state legislation. (Examination)
(Spring—day)

452 **Federal Antitrust Laws (3)**

Schechter, Morgan, Goldman

Federal antitrust law and policy under the Sherman, Clayton, and FTC Acts; basic economic theory of free-market operation; the Rule of Reason and *per se* offenses; price fixing, market division and related agreements under Sherman Act §1; conspiracies; boycotts; trade association activities; measurement of industrial concentration; monopolization and attempts to monopolize under Sherman Act §2; mergers and joint ventures under the Sherman and Clayton Acts; resale price maintenance and other vertical restraints; exclusive dealing and tie-in agreements under the Clayton and Sherman Acts; selected exemptions from antitrust liability. (Examination) (Fall—evening; spring—day)

454 **Product Liability (2)**

T. Schwartz

Development of the concept of product liability and consumer remedies. Survey of civil actions for harm resulting from defective and dangerous products in negligence, warranty, nuisance, fraud, misrepresentation, and other cases. Problems associated with hazard identification, insurance, and industry self-regulation. Review of current legislation dealing with injuries and remedies in specific areas. (Examination) (Spring—day)

455 **Toxic Tort Litigation (2)**

Donley

The use of common law remedies to compensate those injured by diseases characterized by long latency periods and, usually, relatively low levels of exposure. Insurance, workers compensation, and evidentiary issues. (Examination) (Spring—evening)

460 **Consumer Mediation Clinic (2 or 3)**

Izumi

Open to second- and third-year students (first-year students may participate during the summer of their first year). Students act as neutral third parties who help consumers and businesses resolve disputes by negotiating mutually agreeable settlements. Students perform case intake, provide information and referrals, and mediate assigned cases involving a variety of consumer issues (debt collection, credit problems, defective goods and services, home improvement contracts, etc.). Students develop problem-solving techniques as they apply local and federal consumer laws. Students must complete four hours of clinic work per week for each credit earned (includes mandatory seminar) and must present a brief paper analyzing one of their cases. Advanced students may have an opportunity to conduct mediation sessions for consumer cases filed in the D.C. Department of Consumer and Regulatory Affairs Complaint Division. Students work under the guidance of a supervising attorney with the help of more experienced student directors who also provide administrative support. Permission of the instructor required prior to registration. The grade of *CR* (Credit) or *NC* (No Credit) is given for this course. (Fall, spring, summer)

461 **Small Business Clinic (3 or 4)**

Jones

Under the supervision of the instructor, students assist small businesses and nonprofit organizations with a wide variety of legal issues, including drafting incorporation and partnership papers (such as articles of incorporation and bylaws), compliance with local licensing requirements, reviewing and drafting contracts and leases, advising on tax problems and related matters; 15–20 hours of work per week required. Prerequisite: Law 325 and 420 and permission of instructor. The grade of *CR* (Credit) or *NC* (No Credit) is given for this course. (Fall, spring, summer)

462 **Seminar: Trade Regulation (2)**

Group study of current problems relating to unfair trade practices and federal antitrust laws. (Research Paper)

463 **Outside Placement (arr.)**

Sullivan

Students arrange independent projects with state or federal public interest organizations for academic credit. A compilation of suggested projects is available at the Community Legal Clinics office. Projects must receive prior approval by the instructor. Students who wish to work with the bankruptcy division of Law

Students in Court for 2 or 3 credits should register for this course. The grade of CR (Credit) or NC (No Credit) is given for this course. (Fall, spring, summer)

464 Trade Secret and Patent Law (3)

An overview of the cases and statutes relating to trade secrets and a broad study of the law of patents. The course is designed for the nonspecialist but provides a sound foundation for those who intend to specialize in the patent field. (Examination) (Fall—evening)

466 PTO Practice in Patent Matters (2)

Substantive and procedural law of patents leading to issuance of patent, mainly related to proceedings before the U.S. Patent Office. Obtaining and preserving earliest possible patent filing date; continuing applications, *res judicata*, novelty and nonobviousness requirements; substantive rules of priority of invention and related affidavit practice; nature of claims and formal defects; double patenting. Designed for students intending to specialize in patent law. Prerequisite: Law 464. (Examination) (Spring—evening)

468 Computers and the Law (3)

A critical study of selected major legal problems presented by computer technology, including the impact upon legal doctrine and legal institutions. Jurimetrics, the theory of various uses that are and may be made of computers in legal research, the practice of law, and court administration will be examined. Familiarity with the rudiments of computer science or programming would be helpful, but is not required. (Examination)

469 Seminar: Law of Privacy (2)

A review of the law of privacy as it has developed in constitutional litigation, tort law, and state and federal statutes. Current developments and rationales for further expansions of privacy rights are considered. (Research Paper)

470 Medicine for Lawyers (2)

Survey of the basic medical sciences and the rudiments of clinical medicine as encountered in the practice of law. Medical terminology, the disease process, trauma, and industrial medicine. The application of this fundamental information is demonstrated in personal injury or negligence and malpractice litigation as well as in commitment and equitable proceedings. Emphasis on enabling the lawyer to communicate most effectively with medical specialists. (Examination)

472 Law and Medicine (2)

Malpractice, insurance, and alternatives to professional liability litigation; securing and presenting medical evidence to prove causation and damages; chemical test data and behavioral science findings in court; entry into and practice of the professions; professional organizations; hospitals; professional service delivery; public policy intervention in medical science—for example, abortion, transplantation, and coerced treatment. (Examination) (Spring—evening)

474 Seminar: Drugs and the Law (2)

A study of federal and state laws controlling illicit drugs, including the historical evolution of these laws, current offenses and penalties, constitutional limits on the criminal sanction, enforcement practices, and sentencing considerations. Alternative models for controlling drugs, including decriminalization and legalization will also be studied. Six class sessions will be devoted to mock criminal trials at which student teams conduct direct and cross-examination of guest expert witnesses in the field. Other students may be assigned to internships with the U.S. Attorney's Office, Public Defender Service, or other institutions involved in drug law or policy. All participants will be graded on the basis of assigned memoranda pertaining to the legal issues involved in the mock hearings or internships, or special research papers assigned by the instructors. Prerequisite: Law 232. (Writing Assignments) (Spring—day)

475 Seminar: Law, Science, and Technology (2)

Reciprocal relationships between law and science; absorption of scientific concepts into substantive law through adjudication, legislation, and rule-making techniques and procedures used in handling, developing, and deciding scientific issues. (Research Paper)

- 478 **Law and Criminology: Search for the Causes of Criminal Behavior (2)** Courtless
The role that criminological knowledge of crime causation may play in assisting lawyers to appraise the effectiveness of various alternative social and legal devices in controlling deviant behavior. The search for factors related to criminal behavior will be developed historically, with emphasis on current causal theories developed by various disciplines. Model as well as operational penal codes, sentencing and probation practices, and specialized facilities will be analyzed in terms of their relationship to such causal theories. (Research Paper) (Fall—day)
- 479 **Law of Criminal Corrections: Society's Responses to the Criminal Offender (2)** Courtless
Study of the development and current use of society's three major approaches to the handling of offenders: punitive, mechanical, and correctional. Emphasis on society's changing responses to criminal and delinquent behavior; research findings concerning effectiveness of these responses. Analysis of treatment strategies to facilitate communication between members of the legal profession and behavioral scientists charged with effectuating these strategies. Prerequisite: Law 478. (Research Paper) (Spring—day)
- 480 **The Police and the Community (2)** Courtless
Problems and potential of contemporary urban law enforcement; the role and perspective of the police officer; the police *qua* organization; styles of law enforcement; law enforcement in the inner city; relationship with ethnic minorities; civil disorder; police-community relations; methods in arrest and investigation; complaint review procedures; science and technology in law enforcement; police handling of juveniles; crime and crime statistics. (Problem Assignments)
- 482 **Disabled People and the Law (2)** Banzhaf
Examination of those areas in which persons with disabilities have traditionally been denied some right or benefit afforded other persons in our society and have resorted to legal action; introduction to statutes and agencies designed to protect people with disabilities. Students may choose to prepare a research paper (and receive legal writing credit and a numerical grade) or to gain practical experience doing a clinical project (on a CR/NC basis). (Spring—day)
- 483 **National Center for Law and the Deaf Clinical Education Activities (1, 2, or 3)** Banzhaf
Work with the National Center for Law and the Deaf in bringing legal information, services, and representation to the more than 13 million Americans who are deaf or hearing-impaired. The Center is designed to help make the hearing-impaired aware of their legal rights and to assist them in solving their legal and law-related problems. Students may participate in one or more projects: (1) counseling persons with hearing impairments about legal problems at a walk-in clinic usually held on the Gallaudet College campus; (2) preparing and participating in workshops for hearing-impaired persons to acquaint them with their rights and obligations under the law; (3) assisting in representing the interests of deaf and hearing-impaired persons in judicial and administrative proceedings; (4) preparing research papers on topics related to law and the deaf or preparing handbooks explaining legal topics to the hearing-impaired. Students may learn some sign language but will be assisted by trained translators when dealing with deaf individuals. Approximately 60 hours of work per semester is required for each credit hour. Students may repeat this course for a maximum of 8 semester hours of credit. This course may not be taken at the same time as Law 495 or any litigating activities in Law 493. The grade of CR (Credit) or NC (No Credit) is given for this course. (Fall, spring, summer—as arranged)
- 484 **Gender Discrimination and the Law (2)** Ridder
An examination of the treatment of women in all areas of the law and legal remedies for sex discrimination. Emphasis on constitutional law, family law, and discrimination in employment. Enrollment limited to 30 students. (Research Paper) (Fall—day)

485 Comparative Public Procurement (2)

Cibinic, Astor

A comparative study of laws, regulations, and procedures dealing with public procurement; examination of special problems encountered in business dealings with sovereign states; analysis of contract formation, performance, and dispute resolution processes; consideration of influence of international organizations such as the European Economic Community (EEC), United Nations Commission on International Trade Law (UNCITRAL), General Agreement on Tariffs and Trade (GATT), financing institutions, and professional organizations; identification of differences between national and international procurement practices. Prerequisite or concurrent registration: Law 444, 486 or 487, or permission of instructor. (Problem Assignments) (Fall—evenings)

486 Government Contracts (3)

Cibinic, Nash, Eliasof

Survey of basic law underlying government procurement, basic power and limitations on federal government in entering into contracts, administrative and legislative policies governing these contracts, advertised and negotiated procurement procedures, forms of contracts and clauses used. Law 487 is the substantial equivalent of this course. (Examination and Problem Assignments) (Fall—day)

487 Government Procurement Law (4)

Cibinic, Lees

Survey of the law pertaining to government procurement, including an analysis of the unique features of government contracting and a discussion of the functions of Congress, the executive branch, and the courts in the procurement process. The course focuses on the contract formation process, including techniques for awarding contracts and litigation and protests involving awards. Law 486 is the substantial equivalent of this course. (Examination and Problem Assignments) (Fall—evenings)

488 Performance ofNash, Cibinic, Lees,
Stipanowich**Government Contracts (4)**

Discussion of the substantive problems that most frequently arise during the performance of government contracts. Interpretation of specifications and the most generally used contract clauses; analysis of the rights of the parties when performance in accordance with the terms of the contract is not obtained. Analysis of the methods that can be used by the parties to a government contract to obtain legal relief, including detailed coverage of the disputes procedure, actions for breach of contract, and forms of equitable and extraordinary relief. Law 489 is the substantial equivalent of this course. (Examination and Problem Assignments) (Spring—evenings)

489 Administration ofCibinic, Eliasof,
Stipanowich**Government Contracts (3)**

Interpretation of contracts and the legal principles governing the risk allocation between the contracting parties. Contractor claims against the government for changes, differing site conditions and delays. Government enforcement of its contract rights for timely performance of work complying with the specifications. Terminations for default and the convenience of the government. Procedures for litigating disputes between the parties. Law 488 is the substantial equivalent of this course. (Examination and Problem Assignments) (Spring—day)

490 Seminar: Government Contracts (2)

Cibinic, Nash, Lees, Stipanowich

Research and discussion of selected problem areas. (Research Paper) (Spring—day)

491 Government Contracts Cost and Pricing (2)

Cibinic, Nash

Legal aspects of government contract accounting principles and allowability of costs. Cost accounting standards and cost allocation issues. Negotiation of cost, profit, and price. Disclosure of cost accounting data. (Problem assignments) (Fall—evenings)

492 Intensive Clinical Placement (arr.)

Staff

Projects involving litigation, research, or public interest activities of a legal nature (including aid to indigents, support of public interest nonprofit corporations, and support of governmental agencies or courts) may be initiated and will be supervised by a faculty member. Projects must be approved in advance by the Law

Center Supervisory Committee (three members) both as to whether the project is appropriate and as to the number of semester hours of credit to be granted. A maximum of 10 semester hours of credit may be taken in one or two semesters. This course is open to a limited number of third-year law students. The grade *CR* (Credit) or *NC* (No Credit) is given for this course. (Fall and spring)

493 **Administrative Advocacy Clinic (2)**

DelGiudice, Rose, Sullivan

This clinic allows second- and third-year students to represent indigent and elderly claimants in a variety of administrative forums. Under the supervision of clinical faculty, students work on cases for clients who have benefit claims before state and federal agencies. Students work in the areas of Social Security disability, Unemployment Compensation, Medicaid and Medicare, Aid to Families with Dependent Children, and other public benefits programs. Students also gain experience drafting wills, powers of attorney, living wills, and other legal documents. Students are expected to work 8 hours per week and attend a two-hour seminar, in which they learn substantive law and participate in simulation exercises to complement their clinical work. The grade of *CR* (Credit) or *NC* (No Credit) is given for this course. (Fall, spring, summer)

494 **Immigration Clinic (2, 3, or 4)**

Grussendorf

Clinical work includes representation of clients at deportation hearings and oral arguments before the Board of Immigration Appeals and U.S. Court of Appeals. Students assist aliens with a variety of problems, including political asylum applications and adjustment of status from that of nonimmigrant to immigrant. The clinic emphasizes court exposure for the student. Ten to 20 hours of work per week, a two-hour weekly seminar, and an additional weekly meeting with the supervising attorney are required. Permission of the instructor required prior to registration. Prerequisite or concurrent registration: Law 360. The grade of *CR* (Credit) or *NC* (No Credit) is given for this course. (Fall and spring)

495 **Law Students in Court (4)**

Carter

A clinical program in trial advocacy, offering an opportunity to develop skills as a trial lawyer while representing indigent persons in the Superior Court of the District of Columbia. Students may participate in either the civil division (which focuses primarily upon the representation of tenants in landlord-tenant actions, but also handles some consumer, negligence, and other civil matters) or the criminal division (in which student litigators defend persons charged with misdemeanor offenses). Students in both divisions have the opportunity to participate in jury trials. They are responsible for all aspects of litigation under the supervision of clinical instructors: interviewing clients and witnesses, conducting investigations, preparing pleadings, engaging in settlement negotiations or plea bargaining, and conducting all motions hearings and trials pursuant to the Superior Court's third-year practice rule. Only third-year students who have completed Law 218, 215, and 232 may participate in the clinic. Seminars are held in the civil division on Monday evenings and in the criminal division on Wednesday evenings. Students must have one day per week available for court appearances and plan to devote approximately 20 hours per week to the clinic. Students must participate in the program for two consecutive semesters, beginning in either the summer or fall. Application must be made during the spring semester of the preceding academic year. This course may not be taken at the same time as Law 497 or any litigating activities in Law 493. Enrollment is limited, with selection by lottery. The grade *CR* (Credit) or *NC* (No Credit) is given for this course. For the bankruptcy division of *Law Students in Court*, see Law 463, *Outside Placement*. (Fall, spring, and summer)

496 **Law Students Civil Rights Research Council (LSCRR) (2, 3, or 4)**

Sirulnik and Staff

Clinical problems concerned with the legal problems of minorities, women, and the poor. Students work with organizations such as the Lawyers Committee for Civil Rights Under Law, Women's Legal Defense Fund, Civil Rights Division of the Justice Department, Institute for the Development of Indian Law, National Committee Against Discrimination in Housing, and National Senior Citizens Law

Center. Approximately 60 hours of work per semester are required for each credit hour. The grade *CR* (Credit) or *NC* (No Credit) is given for this course. Permission of the instructor is required prior to registration. (Fall, spring, summer)

497 Civil Litigation Clinic (4)

Barthel, Strand

Open to third-year students. Participants represent indigent litigants in D.C. Superior Court. Students are exposed to a range of cases in the Family Division (divorce, custody, child support, alimony), and the Civil Division (landlord-tenant, small claims, negligence, consumer, property disputes). Limited opportunities also arise to work on cases in federal court and in administrative agencies. Work responsibilities include client interviewing, investigation, settlement negotiations, drafting of initial pleadings and motions, as well as conducting actual hearings and trials. Students must have 20 hours per week to devote to this clinic and must participate for both fall and spring semesters. Participation is by permission of the instructor; applications must be submitted during the spring of the preceding academic year. Prerequisite: Law 218, 219, and 232. Preference will be given to those students who have completed or who will be taking concurrently Law 311. Four graded credits are awarded for each semester's work in this course. (Fall and spring)

498 Legal Activism (2 or 3)

Banzhaf

Study of the legal process, not to benefit individual clients, but as a powerful tool for affecting social change and advancing the public interest. Topics discussed in a two-hour seminar meeting each week include principles of maximizing legal leverage, legal judo, guerrilla law, working with the press and members of Congress, drafting of legal documents, unusual legal tools and tactics, negotiation, making money from public interest law, etc. Students may choose to bring a public interest legal action before an agency or in court or may undertake another legal action project for 3 credits and receive a numerical grade. Alternatively, students may do research on a topic related to public interest law for 2 credits on a *CR/NC* basis. (Fall—day)

499 Federal and Appellate Clinic (4)

Staff

Open to third-year students with permission of the instructor; students must apply during the spring of the preceding year. Students participate in preparing actual cases on appeal, starting with review of trial transcript and culminating with preparation of brief and oral argument before the U.S. Court of Appeals for the District of Columbia Circuit. Appellate practice and procedure studied through texts; consultation with appellate judges, law clerks, and attorneys with cases pending on appeal; observation of arguments in the Supreme Court and the Court of Appeals. Two-hour weekly seminar. Must be taken for 4 credit hours per semester for the full academic year. (Fall and spring)

500 Practical Economics for Lawyers (2)

Rubin

For students with no prior economics training. No calculus or statistics is required. Key principles of economic theory are presented, with focus on the application of these principles to antitrust, regulatory impact analysis (including environmental cost/benefit analysis), utility ratemaking and regulation, and de-regulation. The course also considers preparation and examination of economic expert witnesses in these areas of the law. (Examination)

501 Public Economic Policy and the Law (2)

D. Peterson

Interrelation of law and economics in such subject-matter categories and decisional contexts as economic regulation of industry, fiscal policy planning, government research and development practices, foreign trade and investment, and public spending priorities. (Research Paper) (Spring—evening)

502 Law and Economics (2)

Theoretical applications of economic analysis in the study of legal problems and legal institutions. Social welfare theory and basic microeconomic theory are used to explore the common law. For students with no previous economic training. (Examination)

- 503 **Statistics and the Law (2)**
Case method approach to using statistical analysis in proving legal issues. Employment discrimination, civil rights, and regulatory law cases are considered. For students who are afraid of numbers. (Examination)
- 504 **Seminar: Advanced Problems in Public International Law (2)**
Group study of contemporary problems in the theory and practice of international law. Limited enrollment. Prerequisite: Law 444 or permission of instructor. (Research Paper or Examination)
- 505 **International and U.S. Regulation of Foreign Trade (2)** C. Johnston
Study of domestic and international laws and institutions governing foreign trade. Included are the legal consequences of U.S. participation in the GATT, UNCTAD, and other international forums; laws regulating customs and tariffs, government procurement, subsidies, dumping, unfair foreign trade practices, disruptive imports under the escape clause, East-West trade, the generalized system of preferences, most-favored nation treatment, exports under the Export Administration Act, and foreign assets control; the impact of Friendship, Commerce, and Navigation treaties. Specialized problems in regulating boycotts, foreign corrupt practices, and restrictive business practices. Prerequisite or concurrent registration: Law 446; permission of instructor may be substituted. (Examination or Research Paper) (Spring—evening)
- 506 **Seminar: Advanced Problems in International Business Transactions (2)**
Group study of contemporary problems in international business law and practice. Limited enrollment. Prerequisite: Law 446 or permission of instructor. (Research Paper or Examination)
- 507 **Regulation of Investment Advisers and Investment Companies (2)** Brown
Applicability of the Investment Company Act of 1940 to particular business activities that may bring an entity within the statutory definition of investment company; litigation as to fees; policy considerations relating to front-end loads; SEC regulations regarding advertising and promotion; restrictions on activities by affiliates; and current SEC disclosure requirements. Applicability of the Investment Advisers Act of 1940 to activities of individuals and entities; procedures for compliance; First Amendment issues raised by SEC enforcement actions; and civil liability under the antifraud provisions of the securities laws. (Examination)
- 508 **Seminar: Health Care Delivery Systems (2)** Budetti, Tillman
Study of the role of the lawyer in existing and proposed national systems for delivering health care. Students will gain familiarity with the concepts and terms in health care delivery by working with issues in the design, finance, and administration of existing arrangements; examination of the means of reconciling the expectations of various groups of health care service consumers and providers. (Research Paper) (Fall—day; spring—evening)
- 509 **Food and Drug Law (2)** Kaplan, Becker
Consideration of the standards of federal law applicable to the compositional and representational elements of foods, drugs, medical devices, and cosmetics. Provisions of the Federal Food, Drug, and Cosmetic Act, their development, application, and judicial and administrative interpretation. (Research Paper or Examination) (Spring—evening)
- 510 **Administrative Practices and Procedures (Food and Drug Administration) (2)**
The study of FDA administrative procedures for the purpose of investigating the significance that administrative practice has on regulatory activity. The course will consider FDA rulemaking procedures in general, a step-by-step consideration of the various hearing procedures now available under the new agency practices and procedures, and problems designed to enable the practical application of rulemaking and hearing procedures to achieve resolution. Prerequisite: Law 342. (Examination)

532 The Crime Lab, the Forensic Scientist, and the Criminal Lawyer (2)

Starrs, Melson

Designed to acquaint the student with the operations of a modern crime laboratory and the courtroom acceptability of testimony of forensic scientists and other evidence on laboratory test results. Identification of individuals (fingerprints, palmprints, footprints, voiceprints, anthropological reconstruction, hair identification, and serology), identification of objects (ballistics, handwriting, typewriting, fiber identification, paints, varnishes, glass, wood, and paper), toxicology, pathology, forensic use of the microscope and the camera, the coroner and the medical examiner systems, and drug law enforcement. Visual aids, crime laboratory guest lecturers, and field trips to crime laboratories. (Research Paper or Examination at the discretion of the instructor) (Fall—evening; spring—day)

534 Seminar: Criminal Practice (2)

Tactical and practical applications of criminal law; mastery of techniques in trying criminal cases. Class sessions built around mock problems based on actual criminal cases; student role-playing as defense attorneys and prosecutors. All phases of criminal trial work are covered—client relations, investigation, discovery, trial preparation; particular emphasis on courtroom techniques—direct and cross-examination, impeachment, refreshing recollection, laying foundations for exhibits, argument, and courtroom demeanor. Though many of the mock problems are written from a defense viewpoint, techniques taught are relevant to both prosecution and defense. Enrollment limited to 15 third-year and graduate students. Prerequisite: Law 305. Students may elect to receive either a numerical grade or the grade CR (Credit) or NC (No Credit).

538 Law of Real Estate Financing (2)

Carroll, Stuart

Types of lenders, choice of entity, construction loans, permanent financing; lenders' obligations, remedies, and liabilities; title insurance, survey, and liens; ground lease and commercial lease/leasehold mortgage; joint ventures; alternate capital formation; opinion letters. (Examination) (Spring—evening)

539 Survey of the Secondary Mortgage Market (2)

Fruscello

Overview of the secondary mortgage market, including mortgage products, financing and operations of government-sponsored agencies, regulatory framework, mortgage mathematics and pricing, mortgage-backed securities, and derivatives and the private market. (Examination) (Fall—evening)

541 Intergovernmental Relations I (2)

Nash

Study of federalism, emphasizing current techniques for achieving cooperation and coordination between federal, state, and local governments. Detailed consideration of devices used, including interstate compacts, grants-in-aid, and exercise of regulatory powers. (Research Paper)

543 Water Resources Law (2)

Wood

Federal and state powers over water; riparian and prior appropriation doctrines. Federal permit programs and wetland protection. Environmental problems concerning water quantity. Recommended as an introductory course. (Examination) (Spring—evening)

544 Environmental Planning (2)

Kussy

Impact of environmental laws on government decision making, including administrative law issues, comprehensive transportation planning, the National Environmental Policy Act, historic preservation, parkland protection, the Coastal Zone Management Act, wetland protection, farmland protection, the Endangered Species Act and other wildlife issues, mitigation of environmental impacts, role of governmental policies relating to the environment, legislative issues, and state environmental laws. (Examination) (Spring—evening)

545 Regulation of Chemicals (FIFRA & TSCA) (2)

T. Johnston, Fleuchas

Examination of environmental pesticide control: the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), the Toxic Substances Control Act (TSCA), and related legislation. (Examination) (Fall—evening)

- 546 **Natural Resources Law (2)** McBride, Sheldon
Introduction to federal public lands and their multiple uses: forestry, grazing, water, mining, fish and wildlife, recreation, and preservation. Principles of congressional and state authority over these lands. Endangered Species Act and wildlife refuges. The Wilderness Act and the National Park System. Class focus on topical case studies and statutory materials. Recommended as an introductory course. (Examination) (Fall—evening)
- 547 **Air and Water Pollution Control (2)** Reitze
Introduction to water pollution control, the Clean Water Act, the Safe Drinking Water Act. Introduction to air pollution control, the Clean Air Act. Students cannot receive credit for both Law 547 and Law 410. (Examination) (Fall—evening)
- 548 **Control of Toxic and Hazardous Substances (RCRA & CERCLA) (2)** Friedman, Berry
Analysis of the federal and state laws and regulatory schemes relating to the control of toxic and hazardous substances. The Resource Conservation and Recovery Act and the Comprehensive Environmental Response, Compensation, and Liability Act ("Superfund") are examined. (Research Paper) (Spring—evening)
- 549 **Energy Law (2)** Hollis
Survey of federal regulation of the major energy industries. Emphasis on federal controls affecting the natural gas, coal, oil, synthetic fuel, and electric industries. The course approaches energy regulation from a statutory and case standpoint, and also deals with practical, procedural issues. Enrollment is limited to 35 students. Recommended for third-year students. (Examination) (Fall—evening)
- 550 **Use and Control of Nuclear Energy (2)** Malsch
Analysis of the legal framework for regulation of nuclear energy in the United States and for dealing with proliferation of nuclear weapons abroad. Discussion of substantive technical and policy issues relating to nuclear power reactor safety, disposal of radioactive waste, and safeguarding nuclear installations against domestic nuclear terrorism. Focus of the legal discussion is on the U.S. Nuclear Regulatory Commission. Includes such topics as federal preemption, impact of the National Environmental Policy Act of 1969, conduct of adjudicatory hearings under the Administrative Procedure Act, compensation for injuries from nuclear accidents, and preclearing antitrust reviews. (Research Paper)
- 551 **Comparative Environmental Law (2)** Campbell
Environmental law of the United States, foreign and domestic environmental law of Japan, and international environmental law of the European community. The course considers differences in implementation and enforcement of domestic environmental law under the federal system of government in the United States and the central system of government in Japan as well as differences in implementation and enforcement of domestic and international environmental law. In comparing domestic and international environmental laws, toxic substance and pesticide legislation in the United States, Japan, and the European community is covered. (Research Paper) (Spring—evening)
- 552 **Licensing of Intellectual Property Rights (2)** Banner
The legal context of licensing situations: rights and duties of parties to licenses; appropriate terms and conditions in contracts; antitrust and misuse constraints; and selected topics under the law of international licensing. Prerequisite: Law 464 or permission of instructor. (Examination) (Spring—evening)
- 553 **Chemical and Biotech Patent Practice (2)** Wegner
Seminar on patent application preparation, prosecution, appeals, and interferences peculiar to chemical and biotech patent practice. Intended for students who plan to specialize in patent practice. Prerequisite: Law 464 and 466 or permission of instructor. Open to graduate law students; J.D. students may enroll with permission of the dean. (Examination) (Fall—evening)

554 Advanced Topics in Patent Law (2)

Banner

In-depth study of modern Supreme Court cases and those of the Court of Appeals for the Federal Circuit relating to patent validity fundamentals, the scope and construction of patents, their infringement and relief, and the defenses available in the patent law. Prerequisite: Law 464 and 466 or permission of instructor. Open to graduate law students; J.D. students may enroll with permission of the dean. (Examination)

555 Interference Law and Practice (2)

Klitzman

A study of the substantive and procedural law relating to the determination of priority of invention in patent cases. This course is intended for students planning to specialize in patent practice. Prerequisite: Law 464 and 466, or permission of instructor. Open to graduate law students; J.D. students may enroll with permission of the dean. (Examination) (Fall—evening)

556 Enforcement of Patent Rights (2)

This course is designed for those who plan to specialize in patent litigation and includes a study of jurisdiction, venue, injunctive relief, damages, attorneys' fees, and defenses in patent litigation. Prerequisite: Law 464 and 466, or permission of instructor. Open to graduate law students; J.D. students may enroll with permission of the dean. (Examination) (Spring—evening)

557 Electronics and Computers: Patent Practice (2)

The practice in patent matters relating to electronics and computer subjects, including software, with special attention to the preparation, prosecution, appeals, and interferences that are peculiar to this area of patent practice, as well as related copyright aspects. The course is intended for those who plan to practice in the patent field. Prerequisite: Law 464 and 466, or permission of instructor. Open to graduate law students; J.D. students may enroll with permission of the dean. (Examination) (Spring—evening)

558 Foreign and Comparative Patent Law (2)

Wegner

A study of the patent law of other countries and an analysis of the differences, both substantive and procedural, between those laws and the laws of the United States. Special emphasis on the current negotiations concerning harmonization of patent laws throughout the world. Prerequisite: Law 464 or permission of instructor. (Examination or Research Paper) (Spring, even years—evening)

559 Copyright Law (3)

Moore

Historical background and general survey; how copyright is secured and maintained; subject matter of copyright; scope of protection; duration, renewal, and termination of transfers; jurisdiction and remedies; contracts and combinations, including compulsory licenses and performing rights societies; other doctrines neighboring on copyright; international aspects of copyright, including the Berne convention and other treaties on copyright and related subjects. (Examination) (Fall—evening)

560 Trademark Law (2)

Heifer

Procedural and substantive law on use, registration, and protection of trademarks, including the registration procedure in the U.S. and foreign offices. The law of domestic and foreign licensing and franchising arrangements relating to trademarks. (Examination) (Fall, odd years—evening)

561 Law of the European Communities (2)

Winter

Study of the European Communities' law-making structure and substantive doctrines of EC law (e.g., antitrust, insider trading, director liability, unionization, workers' rights, and transborder data flow). (Short Paper and Examination) (Spring—evening)

562 Law of Japan (2)

An introduction to the constitutional structure of Japan, including political institutions and the judicial system, the legal profession, criminal law, domestic relations, business organizations, commercial law, administrative regulation, taxation, dispute resolution, intellectual property, restrictive business practices, and trade. (Research Paper or Examination)

563 **Negotiation: Concepts and Techniques (2)**

Ramundo, Tankel, Craver, Schultz

Roles of the attorney-negotiator and principal (client) in the private, intra-organizational, and international negotiating environments; the "think negotiation" mentality and a suggested conceptualized approach to the negotiation process, including the definition of negotiation, four phases of negotiation, and operational checklists; negotiating techniques, including presentational considerations and the use of persuasion, tactics and ploys, and classic do's and don'ts lists; theories of the opening position and concession-making. Practical exercises in the actual conducting of negotiations. Enrollment limited by the instructors. (Writing Assignments) (Fall—day; spring—day and evening)

564 **Arms Control and Strategic Stability (2)**

Doyle

Legal aspects of arms control and strategic stability; nuclear technology, weapons and effects; delivery systems and strategic balance, including linkage to conventional forces; nuclear and arms control strategies; nuclear testing agreements; nonproliferation agreements and issues; SALT I and antiballistic missile agreements; SALT II evolution and issues; verification, compliance, risk reduction, and confidence building; current negotiations and issues (INF, START, ABM, NST, SDI, ASAT). (Research Paper)

565 **The International Law of Human Rights (2)**

Buergenthal

Development of the rights of man from Grotius through the American and French Revolutions to the work of the United Nations in the field of human rights: the individual vis-à-vis the state; the regional approach to international protection of human rights, with emphasis on the European Convention; the inter-American, African, and Socialist approaches; human rights in armed conflict; and terrorism as a basic deprivation of human rights. Prerequisite or concurrent registration: Law 444; for Post-J.D. students, permission of instructor may be substituted. (Research Paper) (Spring—day)

566 **International Law of Air and Space (2)**

Steinhardt

Study of the development of international law related to the use of air space and outer space; analysis of air and space treaties in force; the role of various intergovernmental and nongovernmental international organizations; consideration of special problems such as liability resulting from space activities, space technology and arms control, and pollution and contamination of outer space; earth resources, sensing, etc. Enrollment limited to 25 students. Prerequisite or concurrent registration: Law 444; for Post-J.D. students, permission of instructor may be substituted. (Research Paper) (Spring—day)

567 **International Law of the Sea (2)**

Doyle

International law related to the use of ocean space. Development of international law concerning internal waters, territorial sea, contiguous zone, high seas, continental shelf, fisheries, exclusive economic zone, maritime boundaries, marine environment, marine scientific research, deep seabed, and settlement of disputes. Current legal and policy issues associated with these areas. Prerequisite or concurrent registration: Law 444; for Post-J.D. students, permission of instructor may be substituted. (Examination)

568 **International Humanitarian Law of Coercion Control (2)**

Buergenthal

Process of legal decision concerning international conflicts and civil wars, including the protection of war victims, control of international terrorism, problems concerning weapons of mass destruction, war crimes and punishment, and problems of preserving human and material values by transforming coercion situations to minimum order ones. Consideration will be given to the four Geneva Conventions of 1949 for the Protection of War Victims, the Geneva Protocols of 1977, the role of the International Committee of the Red Cross, and current problems in the application of humanitarian law. (Research Paper)

569 **Soviet Law (2)**

Ramundo

The concepts of socialist legality and socialist democracy and the political (class) bias of the Soviet legal system; the basic lack of institutional integrity; the ideological heritage (Marxism-Leninism) and "living Marxism"; the Soviet the-

ory of state and law; socialist federalism, the state as principal economic actor, the role of the Communist Party in the Soviet party-state, and governmental and party institutions; the legal relationship between the individual and the state; collectivism vs. individualism and individual rights and obligations; the Soviet approach to international law; the Gorbachev revolution; *perestroika* and *glasnost* and the destabilization of the Soviet system; substantive legal areas: criminal law, property law, labor law, law of civil legal obligations, family law, land law, and collective farm law; and criminal and civil procedural codes. (Research Paper or Examination) (Fall—evening)

570 Chinese Law (2)

Emphasis on the legal system of China; analysis of the constitutional law of China, including general principles, state structure, and rights and duties of citizens; a brief survey of the administration of justice—courts, procuratorates, and lawyers; marriage law; land law; counter-revolutionary act and other criminal statutes; principles of civil law; Chinese concept of international law. (Research Paper) Ranagan

571 International Negotiations (2)

The art and science of international negotiations from a practitioner's perspective: analysis of the roles of the legislative and executive branches; examination of the inter- and intra-agency processes, including pre-, during, and post-negotiation; impact of external influences; Panama Canal Treaties, Law of the Sea Treaty; arms control negotiations, with a case study of the Philippines Base Negotiations. Practical exercises in negotiations. Prerequisite or concurrent registration: Law 444 or 446; for graduate law students, permission of instructor may be substituted. (Research Paper) DeBobs

572 Telecommunications Law (2)

Federal regulation of the broadcasting, cable, and telephone industries. Topics include the licensing process; content regulation and political broadcasting rules; structural regulation of the broadcasting industry; cable franchising; FCC governing the relationship between the cable and broadcasting industries; FCC and judicial responses to the growth of competition in the telephone industry; and the divestiture of AT&T. (Examination) (Spring—evening) Symons

573 Taxation—Timing of Income and Deductions (2)

Problems involved in assigning items of income and deduction to the proper taxable year. General implications of timing differences, annual accounting periods, methods of accounting (particularly the cash method and the accrual method), constructive receipt and the cash equivalency doctrine, transactional problems (including the tax benefit rule and claim of right doctrine), the installment method of reporting gain, cost recovery (including depreciation), and changes in accounting periods and methods. Net operating losses and inventory accounting may also be considered. While this course entails some coverage of widely used accounting methods, it is directed principally at accounting aspects of federal taxation. Students interested primarily in securing a familiarity with financial accounting precepts should instead take Law 324, *Law and Accounting*. Prerequisite: Law 420 or its equivalent. (Examination) (Spring—evening) Halpern

574 Law of the Near East (2)

Law of the Arab countries, Turkey, and Iran, including basic principles of Islamic law, analysis of present-day codes, and investigation of Western influence on laws of these countries. (Research Paper)

577 Taxation—Special Corporation Problems (2)

Issues related to restructurings, acquisitions (taxable and tax free), liquidations, contributions to capital, consolidated returns (filing, deferred intercompany transactions, and losses), allocation of income and deductions among related taxpayers, net operating losses, and classification of instruments as debt or equity. Other issues will be considered, based on the current state and application of the federal income tax laws. Such issues have included the rules regarding the time value of money, Sub-chapter S corporations, and controlled foreign corporations. Prerequisite: Law 424. (Choice of Research Paper or Examination) Muller

- 578 **Nonprofit Organizations: Law and Taxation (2)** Hopkins
Tax-exempt organizations: policy and practice of preferred tax treatment for selected organizations and gifts to them. Statutes, regulations, and IRS practice; legislative origins, judicial interpretations, and policy considerations. Tests of qualification, disqualification, and limited tax preference. Mechanics of securing and retaining exemption; qualified exemption; unrelated business income; private inurement, political activity. Denial or loss of exemption. Return and reporting requirements. Comparative tax treatment of nonexempt and nonprofit organizations. Special sanctions with respect to private foundations, managers, and donors for improper, excessive, or prohibited activities. Enrollment may be limited. Prerequisite: Law 420. (Choice of Research Paper or Examination) (Fall—evening)
- 579 **Taxation—Real Estate and Income (2)** Tucker, Gottlieb
The effect of income taxes on the real estate market and real estate transactions: sales and exchange of real estate interests; various entities for the ownership and development of real estate; the impact of taxes on the landlord and tenant; the impact of taxes on the mortgagor and mortgagee, including the choice of financing techniques, such as sale-leaseback; depreciation, amortization, and obsolescence; basis and basis adjustments; and casualties and other involuntary conversions. Prerequisite: Law 420. Law 424 is suggested but not required. (Examination) (Spring—evening)
- 580 **Taxation—Natural Resources (2)** Peroni
Application of federal income tax law to producing segment of oil and gas industry. Classification of interests; treatment of exploration and development expenditures. Depletion allowance and concept of economic interests. Sales vs. leasing transactions. Organization problems. Prerequisite: Law 420. (Examination) (Spring—day)
- 581 **Taxation—State and Local (2)**
Taxation by state and local governments; problems of real and personal property taxation, sales and use taxes, business and personal income taxes. Limitations on taxation of interstate commerce. Congressional problems. (Choice of Research Paper or Examination)
- 582 **Selected Topics in Taxation—Principles of Charitable Tax Planning (2)**
Intensive study of the federal income, estate, and gift tax consequences of gifts and bequests to charity, including limitations and conditions on deductions; uses of charitable trusts; private foundations; estate planning aspects of charitable transfers; and special charitable gift planning techniques. (Research Paper or Examination)
- 583 **Income Taxation of Foreign Business and Investment (2)** Peroni, Levine
The provisions and policies of federal income tax law applicable to foreign income, including considerations affecting the choice of methods of engaging in foreign business and investment, treatment of controlled foreign corporations, allocation of income in foreign commerce, credit for foreign taxes, principles and trends of U.S. tax treaties. Prerequisite: Law 420. (Examination) (Fall—evening)
- 584 **Income Taxation of Property Transactions (2)** Levine
An in-depth study of the federal income tax consequences relating to the sale, exchange, or other disposition of property, including stock and securities, real estate, machinery and equipment, commodities, foreign currency, patents and copyrights, contracts, goodwill and going-concern value, franchises, and other tangible and intangible property. The continued significance of the distinction between and effect of capital and ordinary gain or loss. Related areas are also examined, including the alternative minimum tax, disallowance of losses, depreciation recapture and methods of deferring recognition of gain and loss. Prerequisite: Law 420. (Examination)
- 585 **Federal Income Taxation of Trusts, Estates, and Beneficiaries (2)**
Rules that allocate items of income and deduction between a trust or estate and its beneficiaries. Computation of distributable net income, the distribution deduc-

tion, allocation of deductions between trust and beneficiaries, allocation of expenses to particular classes of income, tier system, treatment of specific bequests, and treatment of capital gains. The treatment of certain trusts as owned by the grantor or beneficiary and the special rules taxing certain gains of a trust at the grantor's rate; rules that determine whether a trust will be taxed under the general scheme for taxing trusts or whether it will be treated as owned by the grantor. (Examination)

586 Taxation—Deferred Compensation I (2)

Lieber, Holland

Minimum tax and labor law standards of the Employee Retirement Income Security Act of 1974 (ERISA), the Retirement Equity Act of 1984 (REA), and the Pension Protection Act of 1987 applicable to pension plans. Standards include age and service requirements for plan eligibility, vesting, benefit accruals, survivor benefits, coverage of employee group, nondiscrimination (including cash or deferred plans [§401(k)], integration with social security benefits), and limits on contributions and benefits. Current developments affecting plans. (Examination)

587 Taxation—Deferred Compensation II (2)

Lieber, Klevan, Holland

Rules of ERISA and the Internal Revenue Code of 1986 affecting nonqualified plans of deferred compensation: constructive receipt, cash equivalent, economic benefit, economic performance, substantial risk of forfeiture (IRC §§83, 162, 461 [h], 402 [b], and 404 [a][5]). Qualified plans: funding, deductions, distributions, qualified domestic relations orders, fiduciary standards, self-dealing, conflict of interest. (Examination)

588 Seminar: Tax Practice and Procedure (2)

Kaufman

An examination of the procedural aspects of federal tax practice, including both tax controversies and tax planning. Tax controversy topics include audit procedures, IRS administrative appeals, litigation, settlement, claims for refund and collection, and criminal tax matters. Tax planning topics include the legislative process, regulations, ruling requests, technical advice, opinion letters, penalties, and ethical problems. The course emphasizes practical information that is essential in day-to-day tax practice, both in private law firms and in the government. Prerequisite: 5 semester hours of taxation courses, including Law 420. (Examination and Writing Assignment)

591 Legislative Drafting (2)

Smith, Bergman, Goodloe

Advanced instruction and practice in legislative drafting; overview of legislative process with emphasis on legislative drafting. Enrollment limited to 30 students. (Problem Assignments) (Fall and spring—evening)

596 Graduate Outside Placement (1, 2, 3, or 4)

Staff

Limited to LL.M. candidates. Practical experience in the student's area of specialization or interest. The student may work with a government agency, congressional committee, court, or other such entity performing tasks normally assigned to an attorney. Course approval must be obtained from the student's faculty adviser and/or the dean. A maximum of 4 credit hours may be applied toward graduation. For each credit hour, 56 hours of nonremunerated work must be performed. A written report describing in some detail the specific work performed and evaluating the experience received is required. The grade CR (Credit) or NC (No Credit) is given for this course. (Fall, spring, summer)

598 Graduate Independent Legal Writing (1 or 2)

Staff

Limited to graduate students with at least a B average who have had a seminar or comparable course in the field of proposed research. Students are responsible for obtaining an adviser from the full-time faculty who is willing to sponsor their research. This adviser's name must be submitted to the Dean at registration. Work must be completed within the semester. Students may repeat this course once for credit with the approval of the Dean. (Research Paper) (Fall, spring, summer)

599-600 Thesis (2-2)

Students must register for two successive semesters and cannot register for both sections in one semester. (Fall, spring, summer)

622 Introduction to American Law (3)

Buerghenthal

Required for graduate students holding a foreign law degree only, this course focuses on the fundamental doctrinal and methodological characteristics of the American legal system. The approach will be comparative in nature and will deal with selected topics drawn, *inter alia*, from constitutional law, the law of torts, contracts, civil procedure, and conflicts of law. American legal education, the judicial system, and the legal profession are also discussed. (Fall—day)

Specialized LL.M. Programs

Environmental Law Program

Director A.W. Reitze, Jr.

The Environmental Law Program consists of course work, individual research, and clinical work, with the student selecting the mix that meets his or her particular need. Most courses are offered in the early evening so that they can be taken by students in both the day and evening divisions. Advanced courses are taught by some of the most experienced practitioners in the field.

The clinical program allows students to work for the government or for environmental lawyers in the private sector. Placements are usually available with the Departments of Justice, Energy, and Transportation, the Environmental Protection Agency, and private organizations such as the Environmental Defense Fund, the Natural Resources Defense Council, and the National Wildlife Association. The clinical program offers the student with very specific environmental interests a chance to develop these interests in a work setting. Thus, students with interests in topics such as wetland acquisition, historical protection, or wildlife protection can take relevant course work and then further specialize through the clinical program. If the student is interested in individual research, course credit is also available for this type of study.

- 410 *Environmental Law*
- 411 *Air Pollution Control*
- 414 *Clinical Studies in Environmental Law*
- 415 *Occupational Safety and Health Legislation*
- 455 *Toxic Tort Litigation*
- 543 *Water Resources Law*
- 544 *Environmental Planning*
- 545 *Regulation of Chemicals (FIFRA & TSCA)*
- 546 *Natural Resources Law*
- 547 *Air and Water Pollution Control*
- 548 *Control of Toxic and Hazardous Substances (RCRA & CERCLA)*
- 550 *Use and Control of Nuclear Energy*
- 551 *Comparative Environmental Law*
- 557 *Comparative Environmental Litigation*

Individual Research

- 314 *Independent Legal Writing (J.D. Candidates)*
- 598 *Graduate Independent Legal Writing (Master's Candidates)*
- 599-600 *Thesis*

Other Related Courses

- 342 *Administrative Law*
- 344 *Public Law Seminar*
- 345 *Regulated Industries*
- 386 *Admiralty*
- 398 *Modern Real Estate Transactions*
- 487 *Government Procurement Law*
- 500 *Practical Economics for Lawyers*
- 501 *Public Economic Policy and the Law*
- 508 *Seminar: Health Care Delivery Systems*
- 509 *Food and Drug Law*
- 549 *Energy Law*

- 566 *International Law of Air and Space*
- 567 *International Law of the Sea*
- 580 *Taxation: Natural Resources*
- 581 *Taxation: State and Local*
- 591 *Legislative Drafting*

Government Contracts Program

Director F.J. Lees

Faculty Advisers R.C. Nash, Jr., John Cibinic, Jr.

A comprehensive government contracts program provides continuing instruction for industry and government personnel in this field and a program of courses leading to the Master of Laws degree in Government Procurement Law. The program includes (1) short seminars, (2) one-week courses in advanced problems in the field, (3) an annual institute treating a problem of contemporary importance, (4) an annual conference in a major area, (5) compilation of materials for use in current courses, (6) publication of a series of monographs treating special problems in the field, and (7) special research projects.

- 485 *Comparative Public Procurement*
- 486 *Government Contracts*
- 487 *Government Procurement Law*
- 489 *Administration of Government Contracts*
- 490 *Seminar: Government Contracts*
- 491 *Government Contracts Cost and Pricing*
- 541 *Intergovernmental Relations I*

Other Related Courses

- 300 *Federal Jurisdiction*
- 334 *Business Planning*
- 338 *Labor Law*
- 340 *Collective Bargaining and Labor Arbitration*
- 410 *Environmental Law*
- 424 *Taxation—Federal Income, Corporations and Shareholders*
- 429 *Labor Standards*
- 430 *Employment Discrimination Claims and Litigation*
- 431 *Employment Discrimination Law*
- 446 *International Business Transactions*
- 450 *Unfair Trade Practices*
- 452 *Federal Antitrust Laws*
- 464 *Trade Secret and Patent Law*
- 468 *Computers and the Law*
- 550 *Use and Control of Nuclear Energy*
- 563 *Negotiation: Concepts and Techniques*
- 591 *Legislative Drafting*

Intellectual Property Law Program

Director D.W. Banner

The Intellectual Property Law Program has been developed to offer as complete and as integrated a collection of courses in this field of law as possible. The program is one of the most extensive in the United States. The object of the Intellectual Property Law Program is to provide the student with a concentration in this field of

law at a level of specialization and maturity that can enable advancement far more rapidly than usual in this field.

- 552 *Licensing of Intellectual Property Rights*
- 553 *Chemical and Biotech Patent Practice*
- 554 *Advanced Topics in Patent Law*
- 555 *Interference Law and Practice*
- 556 *Enforcement of Patent Rights*
- 557 *Electronics and Computers: Patent Practice*
- 558 *Foreign and Comparative Patent Law*
- 559 *Copyright Law*
- 560 *Trademark Law*

Master of Laws candidates in the area of Intellectual Property Law who have not taken the following courses or their equivalent as part of a Juris Doctor or Bachelor of Laws program should include them in their Master's program.

- 452 *Federal Antitrust Laws*
- 464 *Trade Secret and Patent Law*
- 466 *PTO Practice in Patent Matters*
- 450 *Unfair Trade Practices*

Other Related Courses

- 462 *Seminar: Trade Regulation*
- 468 *Computers and the Law*
- 469 *Seminar: Law of Privacy*
- 487 *Government Procurement Law*

International and Comparative Law Program

Director T. Buergenthal

Associate Director R.G. Steinhardt

Faculty Advisers J.E. Alvarez, J.A. Spanogle

The objectives of the International and Comparative Law Program are to provide insights, skills, and substantive understanding of international law and foreign legal systems. Specific objectives in international law are to provide an understanding of decision making, sanction processes, legal institutions, and the relationships between domestic and international law. Specific objectives in comparative law include understanding of the basic institutions of civil law countries, the reception of civil law and common law in non-Western countries, and the role of decisional law and judicial review in selected legal systems. Improvements that are needed to promote the rule of law in the world community are also considered. International aspects of business transactions and economic development are included in the program, as are human rights and the control of state violence. The objectives of the program are implemented through course work and research seminars for both J.D. and post-J.D. students.

The basic courses for the International and Comparative Law Program are Law 444, *International Law*, Law 446, *International Business Transactions*, and Law 438, *Comparative Law*.

- 371 *International Sales*
- 443 *Foreign Relations, National Security, and the Constitution*
- 448 *International Arbitration*
- 449 *International Civil Litigation*
- 504 *Advanced Problems in Public International Law*
- 505 *International and U.S. Regulation of Foreign Trade*

- 506 *Advanced Problems in International Business Transactions*
- 561 *Law of the European Communities*
- 562 *Law of Japan*
- 565 *International Law of Human Rights*
- 566 *International Law of Air and Space*
- 567 *International Law of the Sea*
- 568 *International Humanitarian Law of Coercion Control*
- 569 *Soviet Law*
- 570 *Chinese Law*
- 571 *International Negotiations*
- 574 *Law of the Near East*

Other Related Courses

- 360 *Immigration Law*
- 386 *Admiralty*
- 440 *Conflict of Laws*
- 485 *Comparative Public Procurement*
- 550 *Use and Control of Nuclear Energy*
- 551 *Comparative Environmental Law*
- 583 *Income Taxation of Foreign Business and Investment*

Land Use Management and Control Program

Director J.M. Brown

Faculty Advisers L.A. Schiller, J.P. Chandler

The social, economic, technological, political, and legal interrelationships generated by the fact that land is a basic, limited-supply natural resource, capable of being subjected to differing but concurrent public and private uses, raise a growing number of issues involving management policy and control measures that are of critical concern to the future of the nation. The Land Use Management and Control Program, through a combination of academic, clinical, and game-simulation processes, seeks to provide an understanding of existing and pending problems, needs, means, and opportunities for solution with respect to this developing area of national concern.

- 402 *Planning, Zoning, and Land Use Law*
- 403 *Seminar: Current Problems in Land Use Management and Control*
- 404 *Land Use Administrative Process*
- 408 *Land Development Law*
- 409 *Local Government Law*
- 410 *Environmental Law*
- 538 *Law of Real Estate Financing*
- 539 *Survey of the Secondary Mortgage Market*
- 541 *Intergovernmental Relations I*
- 543 *Water Resources Law*
- 546 *Natural Resources Law*
- 579 *Taxation—Real Estate and Income*
- 581 *Taxation—State and Local*

Master of Laws candidates in the area of Land Use Management and Control who have not taken the following courses or their equivalent as part of a Juris Doctor or Bachelor of Laws program should include them in their Master's program.

- 342 *Administrative Law*
- 398 *Modern Real Estate Transactions*

Other Related Courses

- 322 *Agency and Partnerships*
- 325 *Corporations*
- 326 *Securities Regulation*
- 344 *Public Law Seminar*
- 345 *Regulated Industries*
- 362 *Legislation*
- 380 *Remedies*
- 382 *Insurance*
- 394 *Community Property/Marital Property*
- 411 *Air Pollution Control*
- 414 *Clinical Studies in Environmental Law*
- 442 *Jurisprudence*
- 482 *Disabled People and the Law*
- 487 *Government Procurement Law*
- 500 *Practical Economics for Lawyers*
- 501 *Public Economic Policy and the Law*
- 544 *Environmental Planning*
- 545 *Environmental Litigation*
- 548 *Control of Toxic and Hazardous Substances (RCRA & CERCLA)*
- 550 *Use and Control of Nuclear Energy*
- 563 *Negotiation: Concepts and Techniques*
- 580 *Taxation—Natural Resources*
- 591 *Legislative Drafting*
- 596 *Graduate Outside Placement*

Alumni Associations

General Alumni Association

The objectives of this association are to unite the graduates who wish to associate themselves for charitable, educational, literary, and scientific purposes, and to promote the general welfare of the University.

Eligible members are those who have enrolled in any school of the University and who have left the University in good standing, or any person who is or has been a member of the teaching, research, or administrative staff of the University, or of the Board of Trustees of the University.

The affairs of the Association are directed by a Governing Board, the majority of whose members represent the constituent alumni organizations of the University's schools and college.

The voluntary leadership of the Association works closely with the staff of the Alumni Relations Office in carrying out Association affairs. The Association may be contacted through the Alumni Relations Office.

The George Washington Law Alumni Association

The George Washington Law Alumni Association was founded in 1912 and has been affiliated with the General Alumni Association since 1926. Its purposes as stated in the constitution are to promote high standards of legal education, to keep the alumni of the school in close touch with each other, and to further the interests of the school. Eligible members are those who have matriculated at the school or National University and have left in good standing, and any member or former member of the faculty of the school. Active members are those eligible members who are current contributors to the Law Annual Support Program of the University and life members of the George Washington Law Alumni Association. The Association periodically publishes the Law Alumni Directory. Law alumni are urged to keep the Alumni Office informed of their whereabouts so that directory information can be kept up to date. The Law Alumni Office is in the Jacob Burns Law Library, 716 20th Street, N.W., Washington, D.C. 20052.

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The University

History and Organization

The George Washington University had its beginning in 1821 as the Columbian College in the District of Columbia. The name of the institution was changed in 1873 to Columbian University and in 1904 to The George Washington University. The debt of the University to George Washington, whose name it bears, is an intangible one.

George Washington, as president and as private citizen, had urgently insisted upon the establishment of a national university in the federal city. There he hoped that, while being instructed in the arts and sciences, students from all parts of the country would acquire the habits of good citizenship, throwing off local prejudices and gaining at first hand a knowledge of the practice, as well as the theory, of republican government. To further the materialization of his hopes, Washington left a bequest of fifty shares of The Potomac Company "towards the endowment of a University to be established within the limits of the District of Columbia, under the auspices of the General Government, if that government should incline to extend a fostering hand towards it." The Congress never extended "a fostering hand." The Potomac Company passed out of existence, and Washington's bequest became worthless.

Fully conscious of Washington's hopes, but motivated primarily by a great missionary urge and the need for a learned clergy, a group of dedicated ministers and laymen sponsored a movement for the establishment of a college in the District of Columbia. Inspired largely by the zeal and energy of the Reverend Luther Rice, they raised funds for the purchase of a site and petitioned Congress for a charter. After much delay and amendment, Congress granted a charter, which was approved by President Monroe on February 9, 1821. To safeguard the College's nonsectarian character, it provided "that persons of every religious denomination shall be capable of being elected Trustees; nor shall any person, either as President, Professor, Tutor or pupil, be refused admittance into said College, or denied any of the privileges, immunities, or advantages thereof, for or on account of his sentiments in matters of religion."

During the entire time when the institution was known as Columbian College, its activities were centered on College Hill, a tract of forty-six and a half acres between the present Fourteenth and Fifteenth Streets extending north from Florida Avenue to somewhat beyond Columbia Road. The Medical School was located downtown. For the better part of the Columbian University period, the buildings of the University were situated along H Street between Thirteenth and Fifteenth Streets.

During the last half century the University's present plant has been developed in that section of the old First Ward familiarly known as Foggy Bottom, between Nineteenth and Twenty-fourth Streets, south of Pennsylvania Avenue. The area contains several reminders of historic interest to the University. President Monroe, who signed the Charter, lived at 2017 Eye Street. The first President of the Board of Trustees, the Reverend Obadiah B. Brown, was for 50 years the pastor of a church at Nineteenth and Eye Streets, and Washington selected Twenty-third and E Streets as the site of the National University he had hoped to see established.

The University as it is now organized consists of Columbian College of Arts and Sciences (undergraduate); the Graduate School of Arts and Sciences; the professional schools, which include the National Law Center, the Elliott School of International Affairs, and the Schools of Medicine and Health Sciences, Engineering and Applied Science, Education and Human Development, and Business and Public Management; and the Division of Continuing Education.

The George Washington University is privately endowed and is governed by a self-perpetuating Board of Trustees of which the president is an *ex officio* member.

Academic Status

The George Washington University is accredited by its regional accrediting agency, the Middle States Association of Colleges and Schools. The University is on the approved list of the American Association of University Women and is a member of the College Board.

Location

The University is in downtown Washington, between Pennsylvania Avenue and 19th, F, and 24th Streets, N.W. In immediately adjacent areas are the White House, the World Bank, the Corcoran Gallery of Art, the Department of State, the Department of the Interior, the General Services Administration, the National Academy of Sciences, and the Kennedy Center for the Performing Arts.

The Board of Trustees of the University

The University is privately endowed and is governed by a Board of Trustees of which the President of the University is an *ex officio* member.

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Colleges and Schools—Degree Programs

Columbian College of Arts and Sciences: Associate in Arts (A.A.), Bachelor of Arts (B.A.), Bachelor of Music (B.Mus.), and Bachelor of Science (B.S.)

Graduate School of Arts and Sciences: Master of Arts (M.A.), Master of Fine Arts (M.F.A.), Master of Forensic Sciences (M.F.S.), Master of Music (M.Mus.), Master of Science (M.S.), Master of Science in Forensic Science (M.S.F.S.), Master of Philosophy (M.Phil.), and Doctor of Philosophy (Ph.D.)

School of Medicine and Health Sciences: Associate in Science (A.S.), Bachelor of Science (B.S.), Bachelor of Science in Health Science (B.S. in H.Sc.), Master of Public Health (M.P.H.), and Doctor of Medicine (M.D.)

National Law Center: Juris Doctor (J.D.), Master of Laws (LL.M.), and Doctor of Juridical Science (S.J.D.)

School of Engineering and Applied Science: Bachelor of Science (Civil Engineering) (B.S.[C.E.]), Bachelor of Science (Computer Engineering) (B.S.[C.Eng.]), Bachelor of Science (Computer Science) (B.S.[C.S.]), Bachelor of Science (Electrical Engineering) (B.S.[E.E.]), Bachelor of Science (Mechanical Engineering) (B.S.[M.E.]), Bachelor of Science (Systems Analysis and Engineering) (B.S.[S.A.&E.]), Master of Engineering Management (M.E.M.), Master of Science (M.S.), Engineer (Engr.), Applied Scientist (App.Sc.), and Doctor of Science (D.Sc.)

School of Education and Human Development: Bachelor of Arts in Education and Human Development (B.A. in Ed.&H.D.), Bachelor of Science in Human Kinetics and Leisure Studies (B.S. in H.K.L.S.), Master of Arts in Education and Human Development (M.A. in Ed.&H.D.), Master of Arts in Teaching (M.A.T.), Master of Education (M.Ed.), Education Specialist (Ed.S.), and Doctor of Education (Ed.D.)

School of Business and Public Management: Bachelor of Accountancy (B.Accy.), Bachelor of Business Administration (B.B.A.), Master of Accountancy (M.Accy.), Master of Association Management (M.A.M.), Master of Business Administration (M.B.A.), Master of Health Services Administration (M.H.S.A.), Master of Public Administration (M.P.A.), Master of Science in Information Systems Technology (M.S. in I.S.T.), Master of Taxation (M.T.), Master of Urban and Regional Planning (M.U.&R.P.), Specialist in Health Services Administration (Spec. in H.S.A.), and Doctor of Philosophy (Ph.D.)

Elliott School of International Affairs: Bachelor of Arts (B.A.) and Master of Arts (M.A.)

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